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ABSTRACT

This guide is designed to provide teachers (grade 2) with a ready resource for planning, organizing, and teaching science to the elementary child. Many suggested activities will provide an enriched science program. Each unit lists estimated time, content, concepts or "understandings," problems to deal with, activities, suggestions for evaluation, audiovisual aids, and additional references. The topic headings of the 11 units are as follows: Seasons; We Do Work; Sounds and Senses; Trees; Rocks and Minerals; The Big Round Earth; The Earth's Gravity; Electricity; Work and Play with Magnets; Animal Babies; and Good Food, Good Teeth. The units were written primarily for second graders, but many of the activities would be appropriate at other elementary grade levels. (JP)

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DE SOTO PARISH CURRICULUM GUIDE

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SCIENCE - ELEMENTARY

Grade Level 2

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INTRODUCTION

This publication is designed to provide teachers with a ready resource which can be utilized in planning, organizing and teaching science to the elementary child. The material contained in this publication includes a wealth of suggestions which will enable the teacher to provide an enriched science program. The suggested learning situations and valuable source materials were planned to assist the science teacher in developing learning situations which will promote a lasting understanding of important scientific concepts.

It is the sincere hope of all who have contributed to this publication that it will be of value to teachers in providing a more meaningful program in elementary science.

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I. Grade Level: 2

Title: Seasons

Time: 4 weeks

II. Content

A. There are signs of fall in the air.

B. Some birds do not migrate.

C. Most plants do not grow in cold weather.

D. Most plants do not live through the winter.

E. Some plants lose their leaves.

F. Some animals hibernate.

G. Most amphibians spend part of their lives in water and part on land.

H. Most animals are quiet in the winter.

III. Understandings

A. During the four seasons we can have many changes in a repeating order.

B. Plants and animals are affected by the changes.

C. In the fall, in some parts of our country, the leaves of many trees change color.

D. We can tell these signs with our different senses.

E. Some birds migrate to warmer climates.

F. Birds seem to know when migration time has come.

G. They live on seeds, fruits, insects, and other foods they can find.

H. Seeds of plants usually last through the winter and then begin to grow.

I. We can feed birds that stay through the winter.

J. The south has four seasons, too.

K. The north's four seasons bring about many changes.

L. In cold weather, people get their food from warmer places.

M. When summer begins, the sun rises in the northeast and sets in the northwest.

N. The beginning of fall finds the sun rising exactly in the east and setting exactly in the west.

O. The sun is always highest in the sky at noon.

P. During the winter, especially in cold places, many animals hibernate.

Q. Hibernating animals rest and sleep, living off the fat stored in their bodies.

R. All animals must adapt themselves to winter conditions.

S. Animals need both food and shelter from the cold during this season.

T. Mammals are warm blooded and have fur or hair.

U. Some mammals sleep through the winter.

V. Reptiles are cold-blooded.

W. Reptiles have scales but do not have hair or fur.

X. Some reptiles hibernate.

Y. Frogs have smooth skins.

Z. Frogs are amphibians.

AA. Fish breathe air and water through gills.

BB. Fish have scales.

CC. Fish do not hibernate. They move slowly under the ice during the winter.

DD. There is air in water and in the soil.

XX. Hibernating animals wake up in the spring.

IV. Problems

A. What are some of the things you can smell?

B. What can you feel?

C. What can you taste?

D. How do birds know when to migrate?

E. How do they know where to go?

F. Where is the acorn?

G. Where did it come from?

H. What will it grow into?

I. At what time of the year does the oak tree have acorns?

J. What happens to the acorn during the winter?

K. Why doesn't the acorn grow in the winter?

L. What will happen to a plant which has been placed in the refrigerator?

M. What does this tell us about what happens to the acorn in the winter?

N. How can an animal live without eating all winter?

O. Why don't these animals need to eat during the winter?

P. What kind of animals have fur?

Q. What do birds do in the cold of the winter?

R. In the winter it is difficult to find a frog. Why?

S. What do fish breathe in water?

T. What do bears breathe in their caves?

U. Where did the bear cub come from?

V. How did they get there?

W. Who took care of them?

V. Activities

A. Make a collection of autumn flowers, seeds and other signs of fall for a display.

B. Discuss how fall is different from other seasons.

C. Discuss activities we do in the fall.

D. Observe the different birds that are migrating from or into their particular area. Look at simple maps showing the routes and where the winter homes for these birds are.

E. Do the experiment on page 5 of Science for Here and Now to find out how merely temperature changes affect plants. Make pictures of what was seen.

F. Collect a variety of seeds and classify them according to size, shape, texture, and color.

G. Do experiment on page 7 in Science for Here and Now to find out if seeds will grow when they are warm and when they are cold.

H. Start a collection of seeds to identify them. A short seed hunting expedition in a nearby field would be interesting.

I. Start a bird-feeding activity. Simple ones can be made from a milk carton. A parent could make one for the class.

J. Discuss why people do not need to migrate in winter, no matter where they live.

K. Pantomime activities for each season and have the children guess the season being represented.

L. Make a list of foods which are brought from warmer places.

M. List machines that are used to transport foods. Let the students color pictures of machines if desired.

N. Make a fall chart. Put fall objects on it. Show objects you hear, see, taste, smell, and feel in the fall.

O. Collect fall leaves.

P. Collect nuts. Match each nut with the leaf of the tree it came from.

Q. Make a hibernation stump. Refer to page 324 in teacher's edition of Science for Here and Now.

R. Do experiment on page 110 in Science for Here and Now to find out if air is in water and soil.

S. Name some animals that hibernate and some that do not. Make a picture booklet of animals that hibernate.

T. Have the class describe any baby animals that they have seen.

U. Bring in pets to your class. Tell which are mammals, birds, reptiles, amphibians, or fish. Tell about their foods. Tell other things about them.

V. Do investigations on page 115 in Science for Here and Now.

W. Find a frog and tell what it looks like and what it feels like.

X. Collect pictures of snowflakes or draw some.

VI. Vocabulary

seasons
worms
insects
Fall
Winter
Spring
Summer

VII. Evaluation

A. Make a picture of all four seasons.

B. Give written quiz.

VIII. References

A. Schneider, Herman and Nina, Science for Here and Now, Teacher's Edition, D. C. Heath and Company, pp. 1-17, 104-115, 322-329, 264-275.

B. Schneider, Herman and Nina, Science for Work and Play, D. C. Heath and Company, pp. 447-515.

IX. Audio Visual Aids

A. Books may be found on page 273 in Science for Here and Now, Teacher's Edition.

B. Encyclopedia references are found on pages 274-275 in Science for Here and Now, Teacher's Edition.

C. Related films and filmstrips are found on page 275 in Science for Here and Now, Teacher's Edition.

Grade Level: 2

Unit No. I: The Fall Season

Time: 5 weeks

Lesson Plan No. (2 days)

I. Purposes of the Lesson

   A. To introduce the unit center of interest

   B. To acquaint pupils with the fall season

   C. To explore the pupils' backgrounds about the function of the seasons

   D. To promote discussion of the fall season

II. Provide Introduction (Motivational Experiences)

   A. Discussion

      1. List the pupils' known facts about the fall season.

      2. List what pupils would like to learn about the fall season.

   B. Teacher-Pupil Sharing and Planning

      1. List questions pupils ask.

      2. Acquaint pupils with the key words: season, worms, chart, and insects.

III. Activities

   A. Individual

      1. Let pupils examine pictures of fall for study.

      2. Let them explain what they see in each picture.

   B. Group

      Let pupils draw pictures of fall scenes.

   C. Class

      Let pupils associate pictures with new words for study

IV. Materials and Resources (Have available prior to lesson)

   A. Textbooks

B. Pictures

C. Pencils and crayon

D. Chalkboard and chalk

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

Summarize lesson introduced by restating material discussed.

B. Teacher-Pupil Evaluation of Lesson

1. Let pupils comment on the fall season discussed.

2. Let them rename some key words introduced.

Grade Level: 2

Unit No. I: The Fall Season

Time: 5 weeks

Lesson Plan No. 2 (3 days)

I. Purposes of the Lesson

- A. To reinforce what has been presented in the previous lesson
- B. To stimulate originality in picture interpretation
- C. To discuss questions that were asked by the children
- D. To let pupils complete their drawing of seasonal ideas

II. Review with Children Previous Day's Work

- A. Discussion
    1. Review facts discussed in lesson one.
    2. State facts pupils know about the season.
- B. Teacher-Pupil Sharing and Planning
    1. List questions children ask about the fall season.
    2. By what other name is the fall season sometimes called? (Autumn)
    3. Name the months that are included in the fall season. (September, October and November)

III. Activities

- A. Individual

  Let pupils use the new words to make oral sentences.
- B. Group

  Discuss how fall is different from other seasons.
- C. Class

  Make a collection of autumn flowers, seeds and other signs of fall for display.

IV. Materials and Resources (Have available prior to lesson)

- A. Textbooks
- B. Dried flowers and seeds
- C. Leaves
- D. Pencils, paper, glue and crayon
- E. Bulletin board

V. Summary and Evaluation of Lesson

- A. Teacher's Review of Lesson

  Summarize the lesson by making statements about how fall is different or by restating material covered in discussion.

- B. Teacher-Pupil Evaluation of Lesson
  1. Let pupils enter into a discussion of the material covered.
  2. Let children rename the new words.

Grade Level: 2

Unit No. I: The Fall Season

Time: 5 weeks

Lesson Plan No. 3 (2 days)

I. Purposes of the Lesson

  A. To encourage pupils to observe the different signs of fall

  B. To encourage pupils to discuss the birds that migrate and the ones that do not

II. Review with Children Previous Day's Work

  A. Discussion

    1. Review facts discussed in lesson two.

    2. Let pupils state facts they know about bird migration.

  B. Teacher-Pupil Sharing and Planning

    1. List questions pupils ask about the seasons: the birds that migrate and the ones that do not.

    2. Ask why some birds stay in the North. (Explain why.)

III. Activities

  A. Individual

  Let pupils read silently pages 9-11 from Science For Here and Now 2 and find out why some birds migrate and why some do not.

  B. Group

  Let pupils draw simple maps showing the flying routes and the winter homes of birds that migrate.

  C. Class

  Let pupils discuss the maps and explain their drawings.

IV. Materials and Resources (Have available prior to lesson)

  A. Textbooks

B. Pencils and paper

C. Crayon and drawing paper

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

Summarize lesson by restating concepts gained.

B. Teacher-Pupil Evaluation of lesson

1. Pupils will discuss material covered that was of special interest to them about changes that occur in the fall.
2. Let pupils answer questions about the lesson that help them to show an awareness of changes that come with the fall season. Develop the concept that fall is a period of transition.

Grade Level: 2

Unit No. I: The Fall Season

Time: 5 weeks

Lesson Plan No. 4 (4 days,

I. Purposes of the Lesson

A. To develop an awareness that some birds do not migrate

B. To become aware that some plants lose their leaves in autumn

C. To acquaint the pupils with the three fall months and their changes

II. Review with Children Previous Day's Work

A. Discussion

1. Review all the facts that were discussed in lesson four.

2. Why do some birds migrate and others do not? Discuss.

3. Pupils will discuss what they read on pages 9-11 in the textbook, Schneider, Herman and Nina, Science for Here and Now 2, Boston: D. C. Heath and Co., 1968.

B. Teacher-Pupil Sharing and Planning

1. During the four seasons we can experience many changes in a repeating order.

2. We can tell changes with our different senses.

III. Activities

A. Individual

1. Let pupils read silently and discuss orally pages 1-2 in the textbook.

2. Discuss where the birds are going and what they will find there.

3. Name birds that fly south. (scarlet tanager, bobolink,

myrtle warbler, chipping sparrow, chimney swift, red-winged blackbird)

4. Name birds that do not fly south. (great horned owl, ring-necked chickadee, goldfinch and eagle)

B. Group

1. Pupils will observe the different birds that are migrating from or into their particular area.
2. The pupils will observe simple, maps provided by the teacher, showing the routes and where the winter homes for these birds are located.

C. Class

1. Let pupils look through magazines, catalogs and periodicals for pictures of birds and bird feeders.
2. Let them display their pictures and talk about them.
3. Let them set up a bird feeding station. (The feeder should be made by the teacher or parent.)

IV. Materials and Resources (Have available prior to lesson)

A. Textbook
B. Pictures
C. Feeder
D. Lumber
E. Foot of guy wire
F. Chart, glue and construction paper
G. Chalk and chalkboard

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

Summarize lesson by restating some of the understandings with reference to changes in autumn.

B. Teacher-Pupil Evaluation of Lesson

1. Pupils will discuss materials covered in textbook.
2. Let children discuss and answer questions about the lesson.

Grade Level: 2

Unit No. I: The Winter Season

Time: 5 weeks

Lesson Plan No. 5 (2 days)

I. Purposes of the Lesson

   A. To introduce the unit center of interest

   B. To acquaint the pupils with the word and meaning of hibernation in the winter

   C. To make pupils become curious about how the animals live during hibernation in winter

II. Review with Children Previous Day's Work

   A. Discussion

      1. Review facts that were discussed in lesson four.

      2. Name some birds that migrate.

      3. How do they know when it's time to migrate?

   B. Teacher-Pupil Sharing and Planning

      1. How can an animal live without eating food all winter?

      2. Why don't these animals need to eat during the winter?

III. Activities

   A. Individual

      1. Let pupils read silently and discuss orally pages 105-106 in textbook, Science for Here and Now 2

      2. Let pupils discuss the habits and activities of many interesting animals.

      3. Let pupils find out in what ways the snow helps the animals. (acts as a blanket and helps keep the animals warm in their winter home)

B. Group

1. Pupils will observe how animals breathe underground. (There is air present.)

2. Children will observe that some animals hibernate in caves and hollows of trees.

3. They will discuss the fact that some animals do store food. (Chipmunks and squirrels.)

C. Class

1. Let pupils draw pictures of animals that hibernate.

2. Pupils will display their drawings and discuss the pictures.

IV. Materials and Resources (Have available prior to lesson)

A. Textbook

B. Drawing paper and crayons

C. Chalkboard and chalk

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

Summarize lesson by restating the main ideas.

B. Teacher-Pupil Evaluation of Lesson

1. Pupils will discuss material covered in textbook.

2. They will discuss and answer orally questions which center around seasonal changes and effects on animals.

Grade Level: 2

Unit No. I: The Winter Season

Time: 5 weeks

Lesson Plan No. 6 (2 days)

I. Purposes of the Lesson

   A. To encourage pupils to find all they can about mammals (They are warm-blooded animals and have fur or hair.)

   B. To learn that some mammals sleep through the winter

II. Review with Children Previous Day's Work

   A. Discussion

      1. Review facts that were discussed in lesson five.

      2. Children will discuss the activities of the animals that hibernate.

      3. They will discuss how the snow helps these animals in winter.

   B. Teacher-Pupil Sharing and Planning

      1. What kinds of animals have fur?

      2. What do other animals have instead of fur?

III. Activities

   A. Individual

      1. Let pupils read silently pages 106-107 in textbook.

      2. Pupils will discuss and find out that some hibernating animals do not live off fat in their bodies.

      3. They will find out what birds do in the cold of winter.

   B. Group

      1. Pupils will construct a hibernation stump.

      2. They will draw pictures to place in the stump if they cannot find pictures suitable for the stump.

C. Class

1. Pupils will discuss their drawings and the construction of the stump.

2. They will display their work.

IV. Materials and Resources (Have available prior to lesson)

A. Textbook

B. Construction paper

C. Pictures

D. Pupils' drawings

E. Drawing paper and crayons

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

Summarize lesson by restating concepts developed.

B. Teacher-Pupil Evaluation of Lesson

Children will discuss material covered and state certain concepts gained in the study.

Grade Level: 2

Unit No. I: The Winter Season

Time: 5 weeks

Lesson Plan No. 7 (1 day)

I. Purposes of the Lesson

   A. To acquaint pupils with reptiles

   B. To teach children that reptiles are cold-blooded animals

   C. To help children discover that reptiles have scales but do not have hair or fur

   D. To help children learn that some reptiles hibernate

II. Review with Children Previous Day's Work

   A. Discussion

      1. Review lesson six.

      2. Pupils will discuss some hibernating animals and discover they do not live off fat in their bodies.

   B. Teacher-Pupil Sharing and Planning

III. Activities

   A. Individual

      1. Let pupils read silently pages 107-108 in Science for Here and Now 2 by Schneider.

      2. They will find out the animals that hibernate.

      3. They will find out that reptiles do not have fur or hair.

   B. Group

      1. Pupils will draw pictures of reptiles in hibernation.

      2. They will discover what animals hibernate. (textbook page 106)

   C. Class

      1. Pupils will discuss what reptile mothers lay eggs (turtles).

2. They will learn that some bear their young alive (some snakes).

3. They will find out that some reptiles have scales and do not feed their young milk.

IV. Materials and Resources (Have available prior to lesson)

A. Textbook: Science For Here and Now 2, Third Edition.

B. Drawing paper and crayons

C. Pictures

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

Summarize lesson by restating specific learnings.

B. Teacher-Pupil Evaluation of Lesson

Pupils will discuss material covered and new facts discovered about different animals - particularly reptiles.

Grade Level: 2

Unit No. I: The Winter Season

Time: 5 weeks

Lesson Plan No. 8 (2 days)

I. Purposes of the Lesson

  A. To acquaint pupils with amphibians

  B. To acquaint pupils with the type of skin the amphibians have

  C. To help them learn the meaning of the word amphibians (means living a double life)

  D. To help them find out what amphibians are: frogs, toads, newts, and salamanders

II. Review with Children Previous Day's Work

  A. Discussion

    1. Review lesson seven.

    2. Pupils will discuss the temperature of the cold-blooded animals.

    3. When a reptile becomes cold, body functions slow down and the appetite is poor.

  B. Teacher-Pupil Sharing and Planning

III Activities

  A. Individual

    1. Let pupils read silently page 108 in Science for Here and Now 2.

    2. They will find a live frog and tell what it looks and feels like.

    3. The pupils will find some frog eggs and discuss them.

  B. Group

    1. Pupils will draw pictures of the frog and label the parts.

    2. They will discover that amphibians pass through a larvae,

usually aquatic, stage (tadpoles) before they metamorphose into the adult form.

C. Class

1. Pupils will discuss how amphibians react with the coming of fall.
2. Pupil will discuss the coming of fall and the seasonal lowering of temperature. The body temperature of the frog drops to a point where it can no longer be active.
3. They will discuss how the frog buries itself in the mud.
4. They will find out that the frog's nervous activity almost ceases and the frog lies in a stupor.

IV. Materials and Resources (Have available prior to lesson)

Textbook, Science For Here and Now 2, Third Edition, pages 107-108

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

Summarize lesson by restating main facts covered.

B. Teacher-Pupil Evaluation of Lesson

Pupil will discuss concepts gained with reference to amphibians.

Grade Level: 2

Unit No. I: The Winter Season

Time: 5 weeks

Lesson Plan No. 9 (1 day)

I. Purposes of the Lesson

  A. To acquaint pupils with fish

  B. They will learn that fish breathe air from water through gills.

  C. They will discover fish have scales.

  D. Pupil will learn that fish do not hibernate.

  E. They will discover that fish move slowly under the ice during the winter.

  F. From their reading, they will find out that there is water and air in the soil.

II. Review with Children Previous Day's Work

  A. Discussion

    1. Review lesson eight.

    2. Pupils will discuss fish as backboned animals that live in water.

    3. They will discover that fish do not see very well, (partly because of their eye structure and partly because of the lack of light as the water gets deeper.)

    4. Pupils will find out that fish have well-developed senses of balance and taste.

    5. They will discuss how fish can hear; and that they are sensitive to vibrations, currents and changes in temperature and pressure.

    6. From their reading they will find out that fish have been known to be frozen in ice, melted out, and then to swim away.

  B. Teacher-Pupil Sharing and Planning

III. Activities

A. Individual

1. Let pupils read silently pages 109-110 in textbook, Science for Here and Now 2.

2. Pupils will do the experiment on air, page 110 in the textbook.

3. They will discuss the outcome of the experiment and explain what they learned from the experiment.

B. Group

1. Pupils will draw the fish and label its parts.

2. They will discuss what fish breathe in water.

3. Pupils will discuss why animals that do not hibernate tend to slow down.

C. Class

1. Pupils will discuss the wonder, expressed on page 112, concerning the way animals know when to begin hibernation and when to awaken.

2. They will discuss that cold alone does not seem to be the reason for hibernation in mammals.

IV. Materials and Resources (Have avaiable prior to lesson)

A. Textbook, Science for Here and Now 2, Third Edition, pages 109-110.

B. Water

C. Glasses

D. Ice

E. Soil

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

Summarize lesson by restating the facts discovered.

B. Teacher-Pupil Evaluation of Lesson

Pupils will be given an oral quiz on fish.

Grade Level: 2

Unit No. I: The Spring Season

Time: 5 weeks

Lesson Plan No. 10 (3 days)

I. Purposes of the Lesson
  A. To learn that hibernating animals wake up in the spring
  B. To extend word meaning
  C. To encourage critical thinking
  D. To develop an interest in and a knowledge of the great variety of plants and animals

II. Review with Children Previous Day's Work
  A. Discussion
    1. Review lesson nine.
    2. Children will discuss what they learned from reading pages 109-110 in the textbook.
    3. They will discuss the names, forms and habits of some fishes.
    4. They will explain why it is important to know the habits of fish.
    5. They will discuss why fishes have different shapes, mouths, etc.
  B. Teacher-Pupil Sharing and Planning

III. Activities
  A. Individual
    1. Let pupils observe pictures in Science for Here and Now, page 19.
    2. They will discuss the topic: Why people do not need to migrate in winter, no matter where they live.
    3. Pupils will draw pictures of spring scenes.
  B. Group

1. Pupils will discuss their drawings.
2. Pupils will discuss why the grass is green and the flowers in bloom.
3. They will draw a plant and label the parts.

C. Class

1. They will discuss the return of the birds from the South.
2. They will discuss the condition of the animals after they come out of hibernation.

IV. Material and Resources (Have available prior to lesson)

A. Textbooks, Science for Here and Now, Third Edition, page 10.

B. Drawing paper and pencils

C. Crayons

D. Pencils and paper

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. Check class participation and interest.
2. Check class display.
3. Discuss how the seasons are different.

B. Teacher-Pupil Evaluation of Lesson

Have an oral evaluation using the objectives listed under purposes.

Grade Level: 2

Unit No. I: The Summer Season

Time: 5 weeks

Lesson Plan No. 11 (4 days)

I. Purposes of the Lesson

- A. To acquaint the pupils with the summer season, the warmest season of the year
- B. To encourage pupils to want to find out all about the summer season
- C. To encourage critical thinking
- D. To acquaint pupils with the summer months
- E. To learn that summer months follow spring months
- F. To acquaint pupils with the length of the summer days as compared to the days in the other three seasons
- G. To encourage children to want to find out what type clothing is best for summer wear (light clothes)

II. Review with Children Previous Day's Work

- A. Discussion
    1. Review lesson ten.
    2. Pupils will discuss the pictures in the textbook.
    3. They will discuss their drawing of the spring scenes.
- B. Teacher-Pupil Sharing and Planning

III. Activities

- A. Individual
    1. Let pupils observe pictures in textbook, Science for Here and Now, page 10.
    2. Pupils will learn to spell and write the names of the summer

months.

3. Pupils will write a story from the list of words below: beach, shells, swim, hat, sand, water, play, sun.

B. Group

1. Keep a record of the weather.
2. Collect pictures that show signs of summer.
3. See whether it is light or dark when you go to bed and get up.
4. Measure your shadow at noon; note if it is longer or shorter than your height.
5. Pupils will make a calendar of the summer months as a class project.

C. Class

1. They will discuss the length of the summer days and nights.
2. Pupils will discuss why the trees and grass are green and why flowers bloom in summer.
3. Compare the time it takes an ice cube to melt in the sun and in the shade.
4. Gather bouquets of garden flowers; find out the names of each flower.

IV. Materials and Resources (Have available prior to lesson)

A. Textbook, Science for Here and Now 2, Third Edition, page 10

B. Chalkboard and chalk

C. Drawing paper and pencils

D. Crayons

E. Glue

F. Pencil and paper

7. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. Evaluate class participation and interest.
2. Examine class display and judge its value.

B. Teacher-Pupil Evaluation of Lesson

Write sentences below on chalkboard. Let pupils copy and fill in blanks from the list of words: hot, green, picnic, swim.

1. In summer the weather is _______.
2. The sunshine is ________.
3. The trees are _______.
4. We go on a _______.
5. We _______ in the pool.

Unit I

I. Grade Level: 2

Title: We Do Work

Time: 2 weeks

II. Content

A. The purpose of this unit is to clarify the meaning of the word work in the minds of children.

B. Provide an opportunity for individual experiments to arrive at the concept that unless an object is moved a distance, there is no work accomplished.

C. The fact that work is hard and requires energy is quite familiar to children. Through the use of wheels and ramps they will find that work can be made easier by using machines.

III. Understandings

A. We can move heavy things more easily with some help.

B. Work is done when heavy things are moved.

C. Rollers make it easier to move heavy things because they roll under the load.

D. Pulling a heavy load across something rubs the surface and is hard work.

E. Wheels are like rollers, because they help to move a heavy load more easily.

F. A ramp helps us to lift a load more easily.

G. Wheels and ramps are used together.

H. A pulley uses a wheel or wheels to pull a load up instead of carrying it up.

I. The machines in the powerhouse make electricity.

IV. Problems

A. After reading page 19 in Science for Here and Now with children, examine the picture. Ask the children, "How are the men moving the boiler off the truck?"

B. Is it easier to pull the books or to lift them?

1. Do the books slide easily along the table?

2. Was it easier to move the box of blocks, books or the wood?

3. What made it easier? (See Science for Here and Now, Book 2, pages 20-21.)

C. Why are wheels better to use for most things than rollers?

D. What things do you have in your home that have wheels?

E. How can we get the box over the ramp? (Page 23 of Science for Here and Now)

1. Is it easier to push the box along the floor?

2. Is it easier to push the box up the ramp?

3. In what direction did the books move?

F. How does a pulley wheel work? How do we get a load up? In which direction did you move the cord? Which way is easier? (See Science for Here and Now, Book 2, page 25.)

V. Activities

A. Stack several books together. Have a child to lift them from the floor to the desk. Allow several children to repeat the activity. Now tie a string around the books. Permit the children to pull the books across the table.

B. Have pupils to dramatize (1) pushing a box of blocks across the floor and (2) pushing a piece of wood across a desk.

C. Put a board over a small flight of stairs. Have the pupils walk up and down the ramp. Take away the board and have them climb the stairs.

D. Put a four-inch wide board across the top of two chairs. Pass a cord over the board and tie one end around a pile of four or five books. Have a child pull down on the other end to lift the books. Now attach a pulley to the board and run the cord through the pulley. Have the child try to lift the books by pulling down on the cord.

E. Have children to make notebooks on the experiments.

F. Collect pictures of wheels that show how work can be made easier.

G. Have class discuss places they have seen ramps being used.

H. Have pupils locate and identify other examples of second class levers.

I. Have the children identify the simple machines that make up such everyday compound machines as the scissors, can opener, pencil sharpener, meat grinder, water faucet and wrench.

J. Have children read and report on windmills and their uses. Point out that the windmill is a wheel and axle machine.

VI. Vocabulary

heavy
load
job
notebook
rollers
plan
pulley
observe
easier
ramp
record
measure
inches

VII. Evaluation

A. Quiz show

B. Written quiz

VIII. References

A. Childcraft, Field Enterprises Educational Corporation, 1970, Vol. 8, pp. 237-253.

B. Schneider, Herman and Nina, Science for Here and Now, Teacher's Edition, D. C. Heath and Company, pp. 277-281.

C. Victor, Edward, Science for the Elementary School, Second Edition, The McMillan Company, pp. 636-657.

IX. Audio Visual Aids

A. Materials for experiments

1. Books
2. Heavy string
3. Round pencils
4. Spring balance
5. Child's wagon
6. Wood or heavy corrugated box
7. 3 towels (cut-off broomsticks)
8. Spools
9. Hanger
10. Clothesline or heavy cord
11. Pictures of wheels

B. Everyday objects that are compound machines

Grade Level: 2

Unit No II: We Do Work

Time: 2 weeks

Lesson Plan No. 1 (1 day)

I. Purposes of the Lesson

A. To make clear the concept that machines help make work easier for people

B. To help pupils understand that people do work when they move some object

C. To clarify the meaning of the word work in the minds of the children

II. Provide Introduction (Motivational Experiences)

A. Discussion

1. Why do we use machines?
2. Who can tell what the word work means?
3. When do people work?
4. Compare the meaning of the expressions "working for a salary" and "working without a salary".

B. Teacher-Pupil Sharing and Planning

1. Read with the children and examine the picture on pages 18 and 19 of the textbook, Schneider, Herman and Nina, Science for Here and Now 2, Boston: D. C. Heath and Co., 1968.
2. Discuss the work of moving the boiler off the truck and what it involves.

III. Activities

A. Class

View the filmstrip, Making Work Easier, color, Heath Science

Filmstrips.

B. Group

1. Place books in a stack. Ask a child to lift the stack from the floor to the desk. Let several children repeat the activity. Now tie a string around the books. Ask children to pull the stack of books across the table.

2. Place pencils on the desk and put the stack on top of the pencils to show that rolling makes work easier than sliding.

IV. Materials and Resources (Have available prior to lesson)

A. Books

B. Heavy string

C. Round pencils

D. Filmstrip, Simple Machines, MPL 531--Select one of the films MPL 531, Simple Machines, from the 1971 catalog of Educational Media from the DeSoto Parish Materials Center, Mansfield.

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. Work is easier when we use machines.

2. When we move things from place to place we are working.

3. We can use rollers to make work easier.

4. Many objects are moved on rollers.

B. Teacher-Pupil Evaluation of Lesson

Draw pictures of machines that are used in making our work easy.

Grade Level: 2

Unit No. II: We Do Work

Time: 2 weeks

Lesson Plan No. 2 (2 days)

I. Purposes of the Lesson

- A. To help students understand that by the use of wheels and ramps work can be made easier
- B. To help students know that wheels are like rollers and help to move a load more easily

II. Review with Children Previous Day's Work

- A. Discussion
  1. Why do we use machines?
  2. Why did the pencils make the books easier to pull across the table?
  3. Why do we use rollers?
- B. Teacher-Pupil Sharing and Planning
  1. Discuss different types of machines used to make work easier.
  2. Ask why wheels are better than rollers.
  3. Let students tell what objects they have at home that have wheels.
  4. Explain how the ramp is used.

III. Activities

- A. Group
  1. Do the experiment on page 23 in the textbook, Science for Here and Now 2, Schneider, Herman and Nina.
  2. Use a wagon to illustrate how wheels help.
- B. Class

        1. Show a film, Wheels, MPL 531, EBE 68, 3 min., si col., available at the DeSoto Parish Materials Center.
        2. Collect pictures of wheels that show how work can be made easier.

IV. Materials and Resources (Have available prior to lesson)
    A. Filmstrip, Wheels, MPL 531
    B. Box
    C. Board
    D. Wagon

V. Summary and Evaluation of Lesson
    A. Teacher's Review of Lesson
    B. Teacher-Pupil Evaluation of Lesson
        1. How are wheels like rollers?
        2. How are they not like rollers?
        3. Talk about how the ramp is used in everyday life. The stairway is a ramp. Children can mention other places where they have seen ramps used to lift a load more easily.

Grade Level: 2

Unit No. II: We Do Work

Time: 2 weeks

Lesson Plan No. 3 (2 days)

I. Purposes of the Lesson

   A. To help students understand how a pulley uses a wheel or wheels to pull a load up instead of carrying it up

   B. To help students discover that wheels revolve around axles that are attached to the vehicles

II. Review with Children Previous Day's Work

   A. Discussion

      1. Wheels and ramps make our work easier.

      2. Wheels are better than rollers.

   B. Teacher-Pupil Sharing and Planning

      1. Ask why we use the pulley to do work.

      2. Let children tell how they have used a pulley or where they have seen pulleys used.

III. Activities

   A. Individual

   Put a four-inch wide board across the tops of two chairs. Pass a cord over the board and tie one end around a pile of four or five books. Have a boy or girl pull down on the opposite end to lift the books. Now attach a pulley to the board and run the cord through the pulley. Have a child try to lift the books by pulling down on the cord. Which way is easier? In which direction did the books move? In which direction did one pull the cord?

   B. Class

        1. Show the film, Simple Machines: The Pulley 1, MPL 531, EBE 67, 3 min., si col., which is available at DeSoto Parish Materials Center, Mansfield.
        2. Show the film, Simple Machines: The Pulley 2, MPL 531, EBE 68, 3 min., si col., which is available at DeSoto Parish Materials Center, Mansfield.

IV. Materials and Resources (Have available prior to lesson)

- A. Film projector
- B. Filmstrips
- C. Board
- D. Books
- E. Pulley

V. Summary and Evaluation of Lesson

- A. Teacher's Review of Lesson
    - 1. Wheels, in the form of pulleys, may be used to change the direction of motion of an object.
    - 2. A downward pull will cause an object to go up.
    - 3. It is easier to pull down than up.
        - a. Ask if a single pulley used this way decreases the force that must be used.
        - b. Explain how we get a force advantage.
    - 4. Help students to see why a pulley must be used differently or in a combination of pulleys.
- B. Teacher-Pupil Evaluation of Lesson
    - 1. Why did you pull down on the cord?
    - 2. How do wheels in the form of pulleys help make our work easier?

Grade Level: 2

Unit No. II: We Do Work

Time: 2 weeks

Lesson Plan No. 4 (5 days)

I. Purposes of the Lesson

- A. To explain to children that a lever is a rigid bar, straight or curved, that rests on a fixed point called the fulcrum.
- B. To help students understand how a first class lever works.

II. Review with Children Previous Day's Work

- A. Discussion
  1. Why are wheels better than rollers?
  2. How does the pulley make our work easier?
- B. Teacher-Pupil Sharing and Planning
  1. What is a lever?
  2. How many classes of levers do we have?
  3. What is a first class lever?
  4. What does it do?
  5. Give examples of the first class lever.
     - a. Crowbar
     - b. Scissors
     - c. Pliers
     - d. Tin snips
     - e. Tack puller
     - f. Seesaw
  6. What is a second class lever?
  7. What does it do?

8. Give examples of the second class lever.
   a. Wheel barrow
   b. Nut cracker
   c. Crowbar
   d. Bottle opener
   e. Oar of a rowboat
9. What is a third class lever?
10. What does it do?
11. Give examples of the third class lever.
   a. Broom
   b. Shovel
   c. Sugar tongs
   d. Tweezers
   e. Fishing pole

III. Activities
   A. Individual
      1. Let a child experiment with a pair of scissors.
      2. Let a child use a tack puller in the classroom.
   B. Group
      1. Take the class out to the playground and let several students seesaw.
      2. Let a group of pupils tell what they see is happening while the seesaw is in action.
   C. Class
      1. Bring examples of the first, second and third class levers.
      2. Each child takes turns experimenting with the levers brought to class.

IV. Materials and Resources (Have available prior to lesson)

- A. Crowbar
- B. Scissors
- C. Pliers
- D. Tin snips
- E. Tack puller
- F. Seesaw
- G. Wheel barrow
- H. Nut cracker
- I. Bottle opener
- J. Broom
- K. Shovel
- L. Tweezers
- M. Sugar tongs
- N. Film, Action of Lever I-III, MPL 531, EBE 67, 3 min., si col., available at DeSoto Parish Materials Center

V. Summary and Evaluation of Lesson

- A. Teacher's Review of Lesson
  1. How many classes of levers do we have? Name them.
  2. Give an example of the three classes of levers.
  3. How do these levers help us?
- B. Teacher-Pupil Evaluation of Lesson
  1. Name the kinds of levers we have discussed in class.
  2. Tell how these levers are helpful to us.
  3. Give a written test on the unit "We Do Work".

Unit III

I. Grade Level: 2

Title: Sounds and Senses

Time: 1 week

II. Content

A. When an object moves back and forth (vibrates), it causes the air around it to move.

B. Sounds are caused by shaking or vibrating objects.

C. Sound energy is transmitted through matter.

III. Understandings

A. Sounds are conducted through the ear by the eardrum and inner portion of the ear; then we hear.

B. Sounds can be increased in many ways, such as with a stethoscope used by a doctor.

C. Sounds may be recorded on tapes and records.

D. You can hear little sounds, big sounds, high sounds and low sounds.

E. The heart sounds lub-dub, lub-dub.

F. The doctor can hear air going in and out of your lungs.

IV. Problems

A. What happens to the sound when it gets to the ear?

B. What is a stethoscope?

C. How do we get sounds from musical instruments?

D. What has to happen if there is to be sound from an instrument?

E. What makes the high sound?

F. What makes the low sounds?

G. What makes the difference?

H. Does sound travel?

I. How do we know?

J. Does it travel around corners?

K. What do we call the part of the ear we can see (on other people or when we look in a mirror)?

L. What does the eardrum do?

V. Activities

A. Experiment: Page 37 in textbook. Make a sound this way. Hold a thin paper near it. Can you hear a sound? Can you see the paper shake? Ask the children to guess what caused the paper to move.

B. Experiment: Page 39 in textbook. Look at the picture on page 39. Hold a watch this way. The ticking watch shakes the air all around. Only a little of the shaking comes to your ears. Can you hear sounds when the air is shaking so little? Now try it this way. The ticking watch is the same. But it does not shake the air all around. Which air does it shake? Why do you hear more sound?

C. Find the lungs in the picture on page 40. Show how air goes into the lungs. Find the heart.

D. Make tape recordings of the children talking and singing and play them back to the class.

E. Play a record of sounds. Bird sounds on a record are fine. The birds are far away. The sounds are here. Play a record on animal sounds, drums or some other instruments.

F. Discuss the function of the eardrum.

G. Trace the path of sound entering the ear.

H. Encourage children to collect pictures of animals that show outer ears of various sizes and shapes. Examples: elephant, cat, mouse, cow, sheep, etc. Use the pictures for a bulletin board display with a caption: "Outer Ears Collect Sounds".

VI. Vocabulary

purring	heart
thin	blood
forth	lungs
ticking	tape

VII. Evaluation

Oral test

VIII. References

A. Brandwein, Paul F., Cooper, Elizabeth L., Concepts in Science, Harcourt, Brace and World, Inc., pp. 39-56.

B. Schneider, Herman and Nina, Science for Here and Now, Teacher's Edition, D. C. Heath and Company, pp. 37-41.

IX. Audio Visual Aids

A. Film--Learning about Your Ear

B. Film--You and Your Ear

C. Encourage pupils to bring pictures of animals that show outer ears of various sizes and shapes.

D. Tape recorder

E. Records

F. Pocket watch

Grade Level: 2

Unit No. III: Sounds and Senses

Time: 1 week

Lesson Plan No. 1 (1 day)

I. Purposes of the Lesson

   A. To teach students that when an object moves back and forth (vibrates) it causes the air to move

   B. To show that sounds are caused by shaking or vibrating objects

   C. To introduce the concept that sound energy is transmitted through matter

II. Provide Introduction (Motivational Experiences)

   A. Discussion

      1. What is sound?

      2. What has to happen if there is to be sound from an instrument?

      3. What happens to the sound when it gets to the ear?

   B. Teacher-Pupil Sharing and Planning

   The teacher will anticipate learnings that center around the following statement and questions:

      1. Sound comes from many places.

      2. What happens when an object moves back and forth?

      3. What is compression and expansion called? (Teacher explanation necessary.)

      4. In what direction do sound waves travel?

III. Activities

   A. Individual

   Two people can make a sound by stretching a rubber band and plucking it lightly. Hold a thin paper near it. Can you hear a sound?

Can you see the paper shake? Ask the children to guess what caused the paper to move. (See textbook, page 37.)

B. Group

Experiment: Page 39 in Science for Here and Now by Herman and Nina Schneider. Look at the picture on page 39. Hold a watch as pictured. The ticking watch shakes the air all around. Only a little of the shaking comes to your ears. Can you hear sounds when the air is shaking so little? Now try it by using a paper cone. Place the large opening of the cone on the watch and the small opening on the ear. The ticking watch is the same. But it does not shake the air all around. What air does it shake? Why do you hear more sound?

IV. Materials and Resources (Have available prior to lesson)

A. Pocket watch

B. Paper

C. Schneider, Herman and Nina, Science for Here and Now, Teacher's Edition, Boston: D. C. Heath and Company, 1968, pp. 37-41.

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. Sounds are caused by vibrating objects. The outer ear collects the sound waves.
2. Sounds are conducted through the ear by the eardrum and inner portion of the ear; then we hear.

B. Teacher-Pupil Evaluation of Lesson

Check on children's concept of vibrating air and the function of the ear in helping them to hear sounds.

Grade Level: 2

Unit No. III: Sounds and Senses

Time: 1 week

Lesson Plan No. 2 (4 days)

I. Purposes of the Lesson

  A. To develop the concept that sounds are conducted through the ear by the eardrum and inner portion of the ear; then we hear

  B. To develop the concept that sounds can be increased in many ways, such as with a stethoscope used by a doctor

  C. To develop the concept that sounds may be recorded on tape and records and reproduced

  D. To develop the concept that you can hear little sounds, big sounds, high sounds, and low sounds

  E. To teach that the heart sounds lub-dub, lub-dub

  F. To teach that the doctor can hear air going in and out of your lungs

II. Review with Children Previous Day's Work

  A. Discussion

    1. When an object moves back and forth(vibrates) it causes the air around it to move.

    2. Sound is another form of energy.

    3. Sound energy moves in all directions.

      a. It may reach your ear.

      b. Then you hear sound.

  B. Teacher-Pupil Sharing and Planning

    1. In a musical instrument, what makes the high sound?

    2. What makes the low sound?

3. What makes the difference?
4. Does sound travel?
5. What do we call the part of the ear we can see? (On other people or when we look in a mirror)
6. What does the eardrum do?

III. Activities

A. Class

1. Find the lungs in the picture on page 40 in Science for Here and Now, by Herman and Nina Schneider. Show how air enters into the lungs. Find the heart.
2. Make tape recordings of the children talking and singing and play them back to the class.
3. Play a record of sounds. Bird sounds on a record are fine. The birds are far away. The sound is here. Play a record on animal sounds, drums, or some other instruments.
4. Discuss the function of the eardrum.
5. Trace the path of sound entering the ear.
6. Encourage children to collect pictures of animals that show outer ears of various sizes and shapes. Example: elephant, cat, mouse, cows, sheep, etc. Use the pictures for a bulletin board display with a caption: "Outer Ears Collect Sounds".

B. Group

Put some sand on a drum. Hit the drum once. Why does the sand bounce? Parts of the drum are moving. They are moving up and down very fast. We say the drum is vibrating. The vibrating drum produces sound.

IV. Materials and Resources (Have available prior to lesson)

   A. Drum

   B. Sand

   C. Picture of an ear

   D. Record player and animal record

   E. Tape recorder

V. Summary and Evaluation of Lesson

   A. Teacher's Review of Lesson

      1. Ears are wonderful. You can hear little sounds, big sounds, high sounds, and low sounds--all sounds come to your ears.

      2. The shaking of the air goes to your ear. A thin part in your ear starts to shake. This thin part is called the eardrum.

      3. The doctor can hear sounds. The doctor can hear the heart.

      4. The doctor can hear air going in and out of your lungs.

      5. Sometimes we want to keep sounds. We want to keep a record of them. The sound makes a record on the tape. This is a tape recording.

   B. Teacher-Pupil Evaluation of Lesson

Unit IV

I. Grade Level: 2

Title: Trees

Time: 2 weeks, 2 days

II. Content

Trees provide lumber, which is an excellent building material. It is easy to cut, nail together, and make into houses and many other things. In the fall, in some parts of the country, the leaves of many trees change color. Some plants lose their leaves. A house is a shelter.

III. Understandings

A. Pine trees grow from pine seeds and grow big.

B. It takes many years for trees to grow big.

C. Some evergreens are Douglas Fir, pine, red cedar, larch, hemlock, spruce and some oaks.

D. Parts of trees are the woody parts (trunk and roots), leaves, and seeds.

E. Wood is easy to cut, to nail, and to smooth.

F. Wood is not too heavy.

G. Wood smells good.

H. Stone, iron, and glass are used along with wood, in building a house.

I. Men cut down trees; round logs are carried away and cut into lumber; the lumber is dried and made smooth; then it is ready to use.

IV. Problems

A. Why is this a good playhouse?

B. Is it altogether suitable for a real live-in house?

C. Why is this a better house?

D. Why is it a good idea to keep a written record of what is seen and done?

E. What materials are used in building a house?

F. Where are they obtained?

G. How are trees made into lumber?

H. Why do we use wood for a building?

I. What are evergreens?

J. Why do we call these trees evergreens?

K. What do you call a man who works with wood in building?

L. Why can children work with wood?

V. Activities

A. Construct a miniature playhouse similar to the one shown on page 55 of Science for Here and Now. Sprinkle water over it to see if if leaks.

B. Look at pictures of different weather conditions and tell how a good house would serve as protection.

C. Take a field trip to see a good house and a poor house that are not occupied.

D. Make a class story of what was seen and done on the field trip.

E. Have the class bring in samples of wood, stone, iron, and glass used to build a house. Display on a table and group them in like categories.

F. Have the children bring in pine-scented objects.

G. Have the children label the wood, glass, stone and iron in the classroom.

H. Discuss pages 60-61 in Science for Here and Now to find out how trees are made into lumber.

I. Do experiment on pages 62-63 in Science for Here and Now to show why wood is better for a house.

J. Take a field trip to examine evergreen trees. (Refer to page 66, Science for Here and Now.)

K. Set up a table with a twig or branch from each type tree (evergreens and hardwood trees), the seed, and a cross section of each type of wood as illustrated on page 67 in Science for Here and Now.

L. Let a worker in a lumber mill or a forest ranger come in and talk to the class about the evergreen trees.

M. Pantomime different things a carpenter does to build a house.

N. Let children saw, nail, pant and carry wood.

VI. Suggested vocabulary

lumber
iron
sharp
discuss
apartment
pine
dried
truck
map
carried
weigh
pound

VII. Enrichment

A. Read about and report to the others on the harvesting of trees including reforesting and fire prevention.

B. Make leaf prints from different trees. Dip pine needles in paint and press on paper; lay leaf down on paper and spatter paint over leaf; put paper over leaf and color over it with wax crayons.

C. Construct simple objects from wood; make models of different kinds of wood.

D. Make simple maps of the room, the neighborhood and their routes to school.

VIII. Evaluation

Oral quiz

IX. References

A. Refer to pages 304-305 in Science for Here and Now, Teacher's Edition, by Herman and Nina Schneider.

B. Pictures from magazines and other sources

C. Samples of wood

Grade Level: 2

Unit No. IV: From Tree to Lumber

Time: 2 weeks

Lesson Plan No. 1 (3 days)

I. Purposes of the Lesson

  A. To help children learn that, to be good, a house must be constructed in the proper manner and the materials that are to be used should be chosen according to specific qualities and needs

  B. To help children familiarize themselves with various materials used in home construction, how and where they are obtained, and all the processes used to turn the raw materials into the finished product

II. Provide Introduction (Motivational Experiences)

  A. Discussion

    1. What is a house?

    2. Why is the house on page 55 of the textbook, Science for Here and Now, not a good house to live in?

    3. If anyone has a playhouse describe its construction to the class.

  B. Teacher-Pupil Sharing and Planning

    1. Referring to page 56 of the textbook, have the children discuss why this would not be a good house in which to live.

    2. Ask why the second house is a better house.

III. Activities

  A. Group

    1. Construct a miniature playhouse similar to the one shown on

page 55 of Science for Here and Now.

2. Sprinkle water over it to see if it leaks.

B. Class

Look at pictures of different weather conditions and tell how a good house would serve as protection.

IV. Materials and Resources (Have available prior to lesson)

A. Magazine clippings of the weather conditions

B. Materials to construct a miniature playhouse (materials may vary)

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. A good house should:

a. Protect us from bad weather

b. Give us light and heat when we need them

c. Have running water

d. Have a bathroom

2. Ask if they think the children spent a comfortable night in the playhouse. Why not?

3. The poorly built house was not adequate protection against the elements.

B. Teacher-Pupil Evaluation of Lesson

1. What is a house?

2. What does one need to have on a good house?

3. Why couldn't the children spend a comfortable night in the playhouse?

Grade Level: 2

Unit No. IV: From Tree to Lumber

Time: 2 weeks

Lesson Plan No. 2 (2 days)

I. Purposes of the Lesson

  A. To help children realize that trees provide lumber, which is an excellent building material

  B. To convince children that lumber is easy to cut, nail together, and to make into houses and many other things

  C. To establish the concept that wood is not too heavy

  D. To learn that wood smells good

II. Review with Children Previous Day's Work

  A. Discussion

    1. What is a house?

    2. Will the poorly constructed house protect the children from the bad weather?

  B. Teacher-Pupil Sharing and Planning

    1. How are the trees made into lumber?

    2. Why do we use wood for a building?

III. Activities (Class)

  A. Take a field trip to see a good house and a poor house that are not occupied.

  B. Write a class story of what was seen and done on the field trip.

  C. Have the class bring in samples of wood, stone, iron, and glass used to build a house. Display on a table and group them in like categories

  D. Have the children bring in pine-scented objects.

IV. Materials and Resources (Have available prior to lesson)

   A. Information about the time and place for the field trip

   B. Wood, stone, iron, glass, and pine-scented objects

V. Summary and Evaluation of Lesson

   A. Teacher's Review of Lesson

      1. A house is a shelter.

      2. There are good and poor houses.

      3. Wood used in building houses may come from several kinds of trees.

   B. Teacher-Pupil Evaluation of Lesson

      1. Name the kinds of trees we get wood from to build houses.

      2. Name other materials that are used to build houses.

Grade Level: 2

Unit No. IV: From Tree to Lumber

Time: 2 weeks

Lesson Plan No. 3 (2 days)

I. Purposes of the Lesson

  A. To help children know that stone, iron and glass are used along with wood in building a house

  B. To help pupils gain information about lumber. Men cut down trees; round logs are carreid away and cut into lumber; the lumber is dried and made smooth; then it is ready to use.

II. Review with Children Previous Day's Work

  A. Discussion

    1. A good house must be built from a specific kind of material.

    2. People must get wood, stone and iron to build a good house.

  B. Teacher-Pupil Sharing and Planning

III. Activities

  A. Class

    1. Have the children label the wood, glass, stone and iron in the classroom.

    2. Have the children bring in pine-scented objects.

    3. From the discussion on pages 60-61 in the textbook find out how trees are made into lumber.

  B. Group

  Do the experiments on pages 62-63 in Science for Here and Now to show why wood is better for a house.

IV. Materials and Resources (Have available prior to lesson)

- A. Wood, glass, stone, iron
- B. Pine-scented objects
- C. Nuts and bolts
- D. Pea gravel
- E. Wood blocks from game sets
- F. Textbook, Science for Here and Now by Herman and Nina Schneider

V. Summary and Evaluation of Lesson

- A. Teacher's Review of Lesson
  - 1. Wood is better for a house.
  - 2. Some trees are made into lumber.
  - 3. Wood that comes from pine trees smells like pine.
  - 4. We have wood, iron, stone and glass in our classroom.
- B. Teacher-Pupil Evaluation of Lesson
  - 1. Tell why wood is better for a house.
  - 2. Why do we use glass for windows?

Grade Level: 2

Unit No IV: From Tree to Lumber

Time: 2 weeks

Lesson Plan No. 4 (3 days)

I. Purposes of the Lesson

   A. To help children know that pine trees grow from pine seeds. They grow big and it takes many years for this to happen.

   B. To teach children that some evergreens are Douglas Fir, pine, red cedar, larch, hemlock, spruce and some oaks

   C. To teach children that the parts of the trees are the woody part (trunk and roots), leaves and seeds

II. Review with Children Previous Day's Work

   A. Discussion

      1. Name the things in the classroom that are made from wood, glass, stone, and iron.

      2. What other pieces of wood smell like pine?

   B. Teacher-Pupil Sharing and Planning

      1. What are evergreens?

      2. Why do we call these trees evergreen?

III. Activities (Class)

   A. Take a field trip to examine evergreen trees.

   B. Set up a table with a twig or branch from each type tree, evergreens and hardwood trees, the seed and a cross-section of each type of wood as illustrated on page 67 in Science for Here and Now.

   C. Let a worker in a lumber mill or a forest ranger come in and talk to the class about the evergreen trees.

   D. Let children saw, nail, paint and carry wood.

IV. Materials and Resources (Have available prior to lesson)

  A. Materials

    1. Twigs or branches
    2. A cross-section of each type of wood
    3. Lumber mill worker or forest ranger
    4. Saw
    5. Nail
    6. Paint
    7. Wood

  B. Resources

    1. Science for Here and Now, Teacher's Edition
    2. Refer to pages 305 in Science for Here and Now, Teacher's Edition for related films and filmstrips.
    3. Pictures from magazines and other sources
    4. Samples of wood

V. Summary and Evaluation of Lesson

  A. Teacher's Review of Lesson

    1. These trees (evergreen) are used for wood.
    2. They are called evergreen.
    3. Many other trees are used for wood.
    4. What do you call a man who works with wood and lumber?

  B. Teacher-Pupil Evaluation of Lesson

    1. What are evergreens?
    2. Why do we call these trees evergreens?
    3. What is the difference between evergreens and hardwood trees?

Unit V

I. Grade Level: 2

Title: Rocks and Minerals

Time: 3 weeks

II. Content

- A. Some parts of houses are made of rock materials.
- B. Some materials do not let in light.
- C. Each material has its own uses.

III. Understandings

- A. All rocks are made of minerals.
- B. Concrete is made with sand, gravel, cement, and water.
- C. Concrete is wet and soft at first and then it becomes hard man-made rock.
- D. Gravel, sand, and cement are bits of different kinds of rocks.
- E. Gravel particles are bits of broken rocks.
- F. Sand is made of tiny particles that are often glossy and is formed from quartz rock.
- G. Cement is limestone rock that has been heated and ground up.
- H. Iron ore, after being mixed with minerals, is heated to form iron.
- I. Molten iron is cast and cut into many forms, including pipes for homes.
- J. Iron may be painted to prevent rusting.
- K. Stone and iron do not burn.
- L. Stone and iron are good building materials.
- M. Quartz sand, which was once quartz rock, is one of the main materials in glass.
- N. Sand is melted with other materials to form glass.

O. Glass is used for windows because it lets in light but keeps out cold wind and rain.

P. Concrete, iron, and glass are used to make many things in the school building.

IV. Problems

A. Why is it better to mix the ingredients for concrete by machine?

B. What is used to make concrete? Is there any special way this should be done?

C. Do you know other things besides concrete that must be mixed to right proportions?

D. Where have you seen brick?

E. Do all bricks look alike?

F. How are bricks held together?

G. Where have you seen tile?

H. How are tiles held together?

I. What happens to the water when mixed with dry ingredients?

J. What is rust?

K. What color is rust?

L. Where have you seen rust?

M. Can rust spoil iron things?

N. How can we prevent iron things from getting rusty?

O. Why are fire escapes painted?

P. Why are bridges kept painted?

Q. Why do captins of ships make sure their ships are always kept painted?

R. What would happen to your bicycle or skates if you often left them out in the rain?

S. What things are changed when heated?

T. Why is glass used for windows?

U. Can the wind and rain come through the glass window?

V. What would happen if someone opened the window?

W. What else does the window keep out besides wind and rain?

X. What can come through the glass window?

Y. Why aren't other materials used for windows?

Z. What are some things found in our school that are made of stone?

V. Activities

A. Let children describe buildings that they have seen or have visited that were made mainly of stone.

B. Have the class start a rock collection and label as many of the rocks as possible.

C. Have the children discuss where they have seen concrete used.

D. Examine samples of gravel, sand, and cement under a magnifying glass.

E. Make some concrete. Use the 1-2-3 mixture of cement, sand, gravel and do not use too much water; mix thoroughly to make concrete.

F. Use plaster of Paris, cement, and clay to make interesting shapes.

G. Mix jello in a pan of hot water to make jello. Pour it into different kinds of molds and let it cool. This is good to give the children an idea of how glass is made. It also shows what happens when materials are heated.

H. Discuss the various uses of pipes in a house.

I. Get two iron nails. Paint one nail and let it dry. Do not paint the other nail. Roll both nails up in wet paper. Let them stay for a day. Observe which nail is rusty.

J. Ask the custodian to point out painted iron in the school building. If possible visit a construction project.

K. Get some stones and some iron objects. Heat them by holding them over a candle flame. (Be sure to use pliers to hold the objects to be heated.) Watch to see if any of the objects burn.

L. Compare sand with a piece of glass.

M. Compare window glass with safety glass.

N. In order to find out what light will go through, cut two holes in a box. Look into one hole. Hold a piece of paper over the other hole. Try many objects to find out what light will go through best.

O. To find out if we can see with no light, put some objects in a shoe box. Cut a rectangle hole in the lid. Make a pinhole in the end of the box. Let a child look through the pinhole. The first time do not shine a light through the top of the box; then shine a light through the top of the box. Let the child tell when he could see the objects and when he couldn't. Another way to do it is to shine the light through the hole in the top, but place black paper over the hole. The child will not be able to see the objects.

P. Make a tour of the school to find many objects made of stone, iron and glass.

Q. Have the class talk about the workmen that use glass, iron, and stone.

R. Make a display of pictures showing how glass, iron and stone are used.

S. Use plaster of Paris and clay molds to make a puppet.

T. Break up some rocks and minerals, first wrapping them in paper or cloth. Compare the color of the freshly broken surface inside the rock or mineral with that of the weather-beaten outside.

VI. Vocabulary

minerals
mountain
whole
deep
soil
mix
metal
ores
melt
poured
pipes
rusty
concrete
gravel
cement
heat
mixture
quartz
weather
smashed
cellar

VII. Evaluation

A. Let the boys and girls draw a house to show how rocks and minerals are used in a house.

B. Give oral quiz.

VIII. References

A. Schneider, Herman and Nina, Science for Here and Now, Teacher's Edition, D. C. Heath and Company, pp. 70-95, 306-319.

B. Schneider, Herman and Nina, Science Far and Near, D. C. Heath and Company, pp. 247-265.

C. Schneider, Herman and Nina, Science for Work and Play, D. C. Heath and Company, pp. 114-115.

D. Victor, Edward, Science for the Elementary School, The MacMillan Company, p. 333.

IX. Audio Visual Aids

  A. Films and Filmstrips

    1. Let's Build a House, 11 minutes, color and black and white, Churchill Films.

    2. Pipes in the House, 11 minutes, color and black and white, Churchill Films.

    3. We Build New Houses, 1 filmstrip, color, Health Science Filmstrips.

  B. Pictures of how stone, glass, and iron are used

X. Materials and Equipment for Experiments

  A. Cement

  B. Sand

  C. Gravel

  D. Plaster of Paris

  E. Clay

  F. Iron nails

  G. Flashlight

  H. Construction paper

  I. Pieces of glass, wood, cloth, wire, and plaster screening

  J. Enamel paint

  K. Paper

  L. Quartz pieces

  M. Water

  N. Shoe box

  O. Tissue paper

Grade Level: 2

Unit No V: Rocks and Minerals

Time: 3 weeks

Lesson Plan No. 1 (1 day)

I. Purposes of the Lesson

- A. To help pupils understand that some parts of houses are made of rock materials
- B. To interest children in starting a collection of rocks and minerals

II. Provide Introduction (Motivational Experiences)

- A. Discussion
  1. Who has a rock collection?
  2. What kind of rocks do you have?
  3. Where did you find the rocks?
  4. Were rocks used to build part of your house?
- B. Teacher-Pupil Sharing and Planning
  1. Tell me about some of the buildings you have seen or visited that were made of stone. Was brick used? Was tile used? Was sandy looking rock used? Was concrete used?
  2. Look at the rock I put on your desk. Did you see any rocks like that in the building you saw?

III. Activities

- A. Individual
  1. Read silently, then orally, in Science for Here and Now, pages 70-71.
  2. Make a picture of a building and show how stone was used.
- B. Class

  Let children describe buildings they have seen or have visited that were built mainly of stone.

IV. Materials and Resources (Have available prior to lesson)

  A. Enough rocks for each child to examine one--use samples of sandstone, brick, concrete, marble and granite

  B. Textbook, Schneider, Herman and Nina, Science for Here and Now 2, Boston: D. C. Heath and Company, 1968.

V. Summary and Evaluation of Lesson

  A. Teacher's Review of Lesson

    1. We learned that bricks are used to build a house.

    2. We also learned that tile, sandy rock, and concrete are used to build houses.

    3. We learned how to test hardness of a rock by trying to scratch it with a knife blade and by using our fingernails.

  B. Teacher-Pupil Evaluation of Lesson

    1. How do we find out about the hardness of a rock?

    2. What different kinds of stone are used to build a house?

Grade Level: 2

Unit No. V: Rocks and Minerals

Time: 3 weeks

Lesson Plan No. 2 (2 days)

I. Purposes of the Lesson

  A. To understand that there are many different kinds of rock

  B. To know that rocks are made of minerals

II. Review with Children Previous Day's Work

  A. Discussion

    1. What different kinds of stone are used in a house? Is brick used? Is tile used? Is concrete used? Is sandy rock used?

    2. Do any of you have any of these stone materials in your house?

  B. Teacher-Pupil Sharing and Planning

    1. Where did these materials come from? Yes, the earth.

    2. Would you like to examine some more rocks today?

III. Activities

  A. Individual

  Read silently, then orally, page 72 in Science for Here and Now 2, by Schneider.

  B. Class

    1. Have the class start a rock collection and label as many of the rocks as possible.

    2. Test the rocks for hardness. Use a fingernail, penny, knife blade. A scratch by a fingernail will test the softest rock; a penny and a knife blade will test a moderately hard rock; a rock that scratches a knife blade will test the hardest rock.

3. Show filmstrip and cassett set 552, Discovering Rocks and Minerals, available at DeSoto Parish Materials Center, Mansfield, La.

IV. Materials and Resources (Have available prior to lesson)

   A. Knife

   B. Penny

   C. Fingernail

   D. Textbook--Schneider, Herman and Nina, Science for Here and Now 2, Boston: D. C. Heath and Company, 1968.

   E. Rocks

      1. Limestone

      2. Sandstone

      3. Granite

      4. Marble

      5. Quartz

      6. Shale

      7. Other rocks

   F. Set 552, filmstrip, Discovering Rocks and Minerals, Coronet 4 fs. col., Cassette, el. hi. (Available at DeSoto Parish Materials Center, Mansfield)

V. Summary and Evaluation of Lesson

   A. Teacher's Review of Lesson

      1. Today, we found out that we can use our fingernail, a knife blade, and a penny to test the hardness of a rock.

      2. We also found out several ways to label rocks. We found such names as limestone, sandstone, granite, marble, quartz, and shale for rocks.

3. Rocks are also called minerals.

B. Teacher-Pupil Evaluation of Lesson

1. If you can scratch a rock with your fingernail, is it soft, moderately hard, or hard?
2. If you can scratch a rock with a knife blade, or a penny, is it soft, moderately hard, or hard?
3. If the rock scratches the knife blade, is it soft, moderately hard, or hard?
4. How did we label the rocks we collected?
5. Was it a good way?
6. How could we have labeled them better?
7. Why are rocks called minerals?

Grade Level: 2

Unit No. V: Rocks and Minerals

Time: 3 weeks

Lesson Plan No. 3 (1 day)

I. Purposes of the Lesson

  A. To help pupils understand that concrete is made from sand, gravel, cement, and water

  B. To help pupils find out that concrete is wet and soft at first and then becomes hard, man-made rock

  C. To help pupils discover that gravel particles are bits of broken rock

II. Review with Children Previous Day's Work

  A. Discussion

    1. Name some different kinds of rocks we talked about yesterday. Find the rocks in our collection.

    2. Why are rocks called minerals?

    3. How did we find out how hard a rock is?

  B. Teacher-Pupil Sharing and Planning

    1. Did you know that men can make stone?

    2. Let's name different kinds of stone that man can make.

    3. Yes, we have tile, concrete, brick and plaster.

    4. Today, we are going to examine rocks and gravel.

III. Activities

  A. Individual

    1. Read silently, then orally, pages 73-74 in Science for Here and Now 2.

2. Examine samples of gravel under a magnifying glass. Have the children describe what they see.

B. Group

Break up some rocks, first wrapping them in paper or cloth. Compare the color of the inside of freshly broken rocks with that of the outside.

C. Class

Have the children discuss where they have seen concrete used. Tell why it was used.

IV. Materials and Resources (Have available prior to lesson)

A. Textbook--Schneider, Herman and Nina, Science for Here and Now 2, Boston: D. C. Heath and Company, 1968.

B. Magnifying glass

C. Gravel for each child

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. We learned today that concrete is made with sand, gravel, cement, and water.

2. At first, it is wet and soft. When it dries, it becomes hard, man-made rock.

3. We learned today that gravel particles are bits of broken rock.

B. Teacher-Pupil Evaluation of Lesson

1. What is concrete made of?

2. How does concrete feel at first?

3. How does it feel when it dries?

4. What is gravel?

Grade Level: 2

Unit No. 7: Rocks and Minerals

Time: 3 weeks

Lesson Plan No. 4 (2 days)

I. Purposes of the Lesson

  A. To help pupils discover that gravel, sand, and cement are small bits of different kinds of rocks

  B. To help students find out that sand is made of tiny particles that are often glossy and formed from quartz rock

  C. To help students understand that cement is limestone rock that has been heated and ground up

II. Review with Children Previous Day's Work

  A. Discussion

    1. What is concrete made of?

    2. How does concrete feel at first?

    3. How does it feel when it is dry?

    4. What is gravel?

  B. Teacher-Pupil Sharing and Planning

    1. What else is found in concrete besides gravel?

    2. What does sand look like?

    3. What does cement look like?

    4. Today we are going to examine some sand and cement.

III. Activities

  A. Individual

    1. Examine samples of sand and cement under a magnifying glass. Copy questions on page 75 of text about sand and cement. Tell the class what was seen.

2. Read silently and orally page 75 in the textbook, Science for Here and Now 2.

3. Make some concrete. Use the 1-2-3 mixture of cement, sand, gravel and not too much water; mix thoroughly to make concrete. Write a short story about making concrete.

4. Use plaster of Paris, cement and clay to make interesting shapes. The materials can be shaped with cookie cutters or in milk cartons.

C. Class

Talk about how plaster, brick and tiles are used in houses.

IV. Materials and Resources (Have available prior to lesson)

A. Sand

B. Cement

C. Textbook--Schneider, Herman and Nina, Science for Here and Now 2, Boston: D. C. Heath and Co., 1968.

D. Large empty can

E. Magnifying glass

F. Water

G. Cookie cutters

H. Milk cartons

I. Plaster of Paris

J. Powdered clay

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. Sand is made up of small bits of shiny, quartz rock.

2. Cement is made up of small bits of limestone rock ground up.

3. We found out that brick, tile and plaster of Paris are other kinds of man-made rock.
4. We use brick, plaster and tile in our homes.

B. Teacher-Pupil Evaluation of Lesson

1. What kind of rock is gravel made of?
2. What kind of rock is cement made from?
3. What are other kinds of man-made stone?
4. Where do we use bricks in a house?
5. Where do we use tile in a house?
6. Where do we use plaster in a house?
7. Where do we use cement in a house?
8. How did you use cement, clay and plaster of Paris in our classroom? What did you make?

Grade Level: 2

Unit No. V: Rocks and Minerals

Time: 3 weeks

Lesson Plan No. 5 (3 days)

I. Purposes of the Lesson

- A. To enable students to learn that iron comes from iron ore dug out of the ground
- B. To help the students understand that iron ore, after being mixed with other minerals, has to be heated to form iron
- C. To help students learn that molten iron is cast and cut into many forms, including pipes for homes.
- D. To help the children know that to prevent rusting, iron may be painted

II. Review with Children Previous Day's Work

- A. Discussion
    1. What makes sand?
    2. What is used to make cement?
    3. What are other kinds of man-made rock?
    4. Where is brick used in a house?
    5. Where is tile used in a house?
    6. Where is plaster used in a house?
    7. Where is concrete used in a house?
    8. Where is cement used in a house?
- B. Teacher-Pupil Sharing and Planning
    1. What kinds of rock have we talked about?
    2. This is a piece of iron. It comes from the earth too, as an ore that looks like red dirt.

3. Have any of you ever been to an iron foundry?
4. The best iron ore comes from near the Great Lakes. (Show boys and girls the Great Lakes on a United States map. Mention the Mesabi Range and perhaps open-pit mining.)

III. Activities

A. Individual

1. Read silently and orally pages 78-81 in Science for Here and Now.
2. Read silently and orally pages 82-83 in Science for Here and Now.
3. Get two nails. Paint one nail and let it dry. Do not paint the other nail. Roll both nails up in wet paper. Let them stay for a day. Observe which nail is rusty.
4. Draw some pictures to show how water is used in a house.

B. Group

1. Make up some jello. Pour into different kinds of molds. It shows the child how iron is shaped.
2. Collect pictures that show how iron is made.

C. Class

1. Discuss the various uses of pipes in a house.
2. Ask the custodian to point out some painted iron in the school building.
3. If possible, visit a construction project.

IV. Materials and Resources (Have available prior to lesson)

A. Paint

B. Nails

C. Brush

D. Jello

E. Jello molds

F. Hot water

G. Spoon

H. Bowl

I. Pictures of how iron is made

J. Custodian

K. Schneider, Herman and Nina, Science for Here and Now 2, Boston: D. C. Heath and Co. 1968.

L. Piece of iron

M. United States map

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. In this lesson we learned that iron comes from iron ore, dug out of the ground.
2. Iron ore is mixed with other ingredients. Then it is heated to form iron.
3. Molten iron is cast and cut into many forms, including pipes for homes.
4. Remember, to keep iron from rusting, you must paint it.

B. Teacher-Pupil Evaluation

1. Where does iron come from?
2. Where is iron ore found?
3. What do you have to do to iron ore to make iron?
4. Name some things made of iron.
5. How do we keep iron from rusting?

Grade Level: 2

Unit No. V: Rocks and Minerals

Time: 3 weeks

Lesson Plan No. 6 (1 day)

I. Purposes of the Lesson

  A. To help children discover that stone and iron do not burn

  B. To make them aware that stone and iron are good building materials

II. Review with Children Previous Day's Work

  A. Discussion

    1. Where does iron come from?

    2. Where do we get the iron ore?

    3. What happens to the iron ore? (It is mixed with other minerals and heated.)

    4. Name some things made of iron.

    5. How can you keep iron from rusting?

  B. Teacher-Pupil Sharing and Planning

    1. We have found out where iron is used in building a house.

    2. Where have you seen stone used?

    3. Will stone burn?

    4. Today, We are going to find out whether stone and iron will burn.

III. Activities

  A. Individual

    1. Read silently and orally pages 84-85 in Science for Here and Now 2 by Schneider.

    2. Write a short story about the experiment Will Stone Burn?

B. Class

Get some stones and some iron objects. Heat them by holding them over a candle flame. (Be sure to use pliers to hold the objects to be heated.) Set a time limit. Watch to see if any of the objects burn.

IV. Materials and Resources (Have available prior to lesson)

A. Pliers

B. Stone

C. Iron

D. Candle

E. Matches

F. Textbook--Schneider, Herman and Nina, Science for Here and Now. Boston: D. C. Heath and Co. 1968.

G. Paper and pencil

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. Today we tried to burn iron and stone.
2. We found out that stone can be used in places that are hot.

B. Teacher-Pupil Evaluation

1. How did we try to burn stone and iron?
2. Did the iron and stone burn?
3. Where can we use stone in a house?

Grade Level: 2

Unit No. V: Rocks and Minerals

Time: 3 weeks

Lesson Plan No. 7 (2 days)

I. Purposes of the Lesson

- A. To help pupils understand that quartz sand, which was once quartz rock, is one of the main materials in glass
- B. To help pupils know that sand is melted with other materials to form glass
- C. To help them know that glass is used for windows because it lets in light but keeps out wind and rain

II. Review with Children Previous Day's Work

- A. Discussion
  - 1. Will stone burn?
  - 2. Will iron burn?
  - 3. How do we use stone and iron in a house?
- B. Teacher-Pupil Sharing and Planning
  - 1. Are there other types of materials used to build houses?
  - 2. What are other things used in a house?
  - 3. Which one can you see through? Yes, glass.
  - 4. Where is glass used in our schoolroom?
  - 5. Today, we are going to talk about glass.

III. Activities

- A. Individual
  - 1. Read silently and orally pages 86-87 in Science for Here and Now 2.

2. Compare some sand and a piece of glass. Write down how they differ.

B. Group

Make candy or gelatin dessert to show how things change when heated and are cooled. If it is not possible, show pictures of ingredients and the finished product.

C. Class

1. Talk about why we use glass in windows.
2. Compare window glass and safety glass.
3. Talk about different kinds of windows they have seen.
4. Visit a glass factory. Make notes on what you see.

IV. Materials and Resources (Have available prior to lesson)

A. Window glass

B. Safety glass

C. Sand

D. Materials for making candy or gelatin dessert

E. Textbook--Schneider, Herman and Nina, Science for Here and Now 2, Boston: D. C. Heath and Co., 1968.

F. Paper and pencil

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. We learned today that quartz sand is one of the materials in glass.
2. We know that sand is melted with other materials to form glass.
3. We use glass because it lets in light, but it also keeps out wind and rain.

B. Teacher-Pupil Evaluation

1. What is one material we use in glass?
2. We know that sand is melted with other materials to form glass.
3. We use glass because it lets in light, but it also keeps out wind and rian.

Grade Level: 2

Unit No. V: Rocks and Minerals

Time: 3 weeks

Lesson Plan No. 8 (1 day)

I. Purposes of the Lesson

  A. To prove that some materials do not let in light

  B. To prove that glass lets in all kinds of light

II. Review with Children Previous Day's Work

  A. Discussion

    1. What is one material you use to make glass?

    2. What do you do to sand before it makes glass.

    3. Why is glass used for windows?

  B. Teacher-Pupil Sharing and Planning

    1. Name some other things you might be able to see through.

    2. Today, we are going to find out what materials we can see through and what we can't see through.

III. Activities

  A. Individual

  Read pages 89-90 in Science for Here and Now 2.

  B. Group

    1. Use a shoe box with a hole cut in each end. Place different types of materials over one end of the box. Write down the materials that you can see through.

    2. Use one shoe box. Cut a hole in the top and in one end of the box. Place a lamp over the box. Place objects in the box. Keep the lamp off and look in the box. Tell if you can see objects in the box. Turn on the lamp and decide if you can see

in the box.

IV. Materials and Resources (Have available prior to lesson)

A. Shoe box

B. Scissors

C. Cellophane, glass

D. Plastic

E. Construction paper

F. Plastic glass

G. Wax paper, cloth, screen

H. Wire and other materials for light to go through

I. Lamp

J. Objects to put in shoe box

K. Black paper

L. Textbook--Schneider, Herman and Nina, Science for Here and Now, Boston: D. C. Heath and Co., 1968.

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. We tried two experiments today. One was to find out what light will go through and the other was to find out if we could see objects in the dark.

2. We can see through glass, wax paper, cellophane, and other materials, but glass is easier to see through.

3. Also, we need light to see objects.

B. Teacher-Pupil Evaluation

1. What will light go through?

2. Why do we use glass for windows?

3. Can you see objects in the dark? In the light?

Grade Level: 2

Unit No. V: Rocks and Minerals

Time: 3 weeks

Lesson Plan No. 9 (2 days)

I. Purposes of the Lesson

   A. To help students know that concrete, iron, and glass are used to make many things in the school building

   B. To help them understand that each material has its own use

II. Review with Children Previous Day's Work

   A. Discussion

      1. Name some materials light will go through.

      2. Which one is best for a window? Why?

      3. Can we see objects when it is dark? Why?

      4. Can we see objects when it is light? Why?

   B. Teacher-Pupil Sharing and Planning

      1. What are all of the materials we use in a building?

      2. Where do we use brick? Iron? Glass? Concrete?

      3. Why do we use them in these places?

      4. Today, we are going to take a trip through the school building to see what materials are used, where they are used, and why they are used in these places.

III. Activities

   A. Individual

      1. Read silently and orally pages 91-93 in Science for Here and Now 2, by Herman and Nina Schneider, 1968.

      2. Make pictures showing how glass, iron and stone are used in the school building. Display on a bulletin board.

B. Class

1. Talk about the workmen that use glass, iron and stone.

2. Take a trip around the school to find out where glass, iron and wood are used.

IV. Materials and Resources (Have available prior to lesson)

A. School building

B. Art paper

C. Crayons

D. Textbook--Schneider, Herman and Nina, Science for Here and Now, Boston: D. C. Heath and Co., 1968

V. Summary and Evaluation of Lesson

A. Teacher's Review of the Lesson

1. We found glass, stone and iron in our school, didn't we?

2. We need glass for windows because it lets in light, but keeps out the cold air, snow and rain.

3. We need stone in places where heat is used.

4. We need iron for the pipes in the house because it will not rot and can be kept from rusting by painting the pipe.

B. Teacher-Pupil Evaluation

1. Let the boys and girls draw a house to show how rocks and minerals are used in building a house.

2. Give oral quiz based on the textbook material and activities carried on in class.

Unit VI

I. Grade Level: 2

Title: The Big Round Earth

Time: 3 weeks

II. Content

A. The sun gives the earth light and heat.

B. Living things need heat and light.

C. It is night when our part of the earth is turned away from the sun.

D. It is day when our part of the earth is turned toward the sun.

E. A three dimensional object casts shadows which are two dimensional.

F. Three dimensional objects will cast shadows of many different shapes depending on the position of the light source and the object.

G. We can predict the shape of shadows which a three dimensional object will cast.

H. We can infer the shape of a three dimensional object by observing the shadows which it casts.

III. Understandings

A. The earth is like a big, round ball.

B. We cannot see this roundness because we are on the earth.

C. We can see the roundness of the sun and the moon because we see them from a distance.

D. The sun is much larger than the earth.

E. The sun is a star.

F. The sun gives off its own light and heat.

G. Day and night are caused by the earth turning in the sunlight.

H. Shadows will be long in the morning, shortest at noon, and will lengthen again in the afternoon.

I. The direction of the shadow changes from morning to afternoon, moving from west of north to east of north.

J. You cannot see the sun on cloudy days, but there is light on the earth.

IV. Problems

A. How can children believe what they have not seen?

B. If the earth does not look round to us, then why do people say it is round like a ball?

C. How can we find out if the world is round?

D. What will a man see when he is far away from an object?

E. What is the shape of the earth?

F. How can you explain that the earth is a round ball even though you can't see its roundness?

G. How many of us realize that our kind of day and night need not necessarily be, since a planet does not necessarily have to turn in the way that our earth does?

H. How fast is the earth turning?

I. What do we get from the sun when it is daylight?

J. What happens when we block out the sun?

K. Where would you have to be to see the sunlight?

L. Where would you have to be to see the sun on a cloudy day?

V. Activities

A. Collect pictures of earth's curvature taken from rockets and by astronauts. Discuss pictures the boys and girls have seen on television.

B. Show that distances change the visual appearance of objects by, first, holding a little ball close to you and, second, holding a big ball close to you. You will see the roundness of the little ball, but not the roundness of the big ball.

C. Have the class collect information about the equipment worn and used by astronauts.

D. Find pictures of the moon and drawings of what the moon's surface is thought to be like.

E. Observe how the earth turns and how it causes day and night by shining a light which is stationary on a globe. Turn the globe slowly and observe how part of the globe is lighted where the light hits it. The rest of the globe is dark. Be sure to place a flag on the United States to represent home.

F. To find out if the earth turns, put a sheet of paper on the school ground. Put a stick in the middle of the paper. Then tape strips of paper where the shadow hits the paper at 9 a.m., Noon, and 3 p.m. Observe how the shadows move.

G. To find out what a cloudy and sunny day are like, shine a light over a child's shoulder as he reads a book. The child will be able to read it. Then do the same thing again with wax paper held near the light. This will represent a cloudy day, because the light is not as bright.

H. To find out if sunlight gives us heat, get two dishes and place an ice cube in each one. Place black paper under each ice cube. Set one dish out of the sunlight; set the other dish in the sunlight. Every five minutes measure each ice cube. Observe to see which ice cube melted faster.

I. Fill two glasses of water. Leave one in sunlight, the other in a dark palce. The one in sunlight will get warmer than the one in a dark place.

J. Place a thermometer outside in a shady place. Measure the colored line on the thermometer. Do this every hour. You can do the experiment on a sunny day and a cloudy day. Make a temperature chart to record the temperature rise.

K. Project the shadow of an object on a lighted piece of paper mounted on the blackboard. Let the boys and girls guess what object made the shadow.

L. Draw pictures of the earth, sun and moon.

M. Make food chains and trace different foods back to the sun as a source of energy.

N. A demonstration of a solar eclipse involves the use of a cardboard box, a light bulb, and a stiff wire or a bicycle spoke. A small wooden or clay ball mounted on a knitting needle represents the moon. Make a 2" circular hole through a piece of cardboard painted or colored black. Draw a red crayon mark around this hole to represent the corona. A light bulb shining through the 2" hole is the sun. The corona cannot be seen until the "moon" totally eclipses the "sun". The wire is used to adjust the moon's position with relation to the viewer and the sun. The eclipse is viewed through one of the pinholes made in the cardboard behind the ball that represents the moon.

O. Ask the children to draw or cut out the moon shape they saw when each one observed the moon.

P. Prepare a set of cutouts, ranging from a thin crescent through quarter and half moon up to a full moon. Let the boys and girls pick out the shape they saw when they observed the moon.

Q. Blow up a balloon and hold it at the neck. Push it from the front. Feel the air pushing back at you. Push the sides. Feel the air push back. Any place you push, the air pushes right back. Now let go; you let air out. This air was pushing against the insides of the balloon before you let it go.

VI. Vocabulary

roundness
shadow
wax
shady
solar eclipse
corona

crescent
quarter moon
half moon
full moon
phases of the moon

VII. Evaluation

A. Quiz

B. Let children dramatize how the earth rotates around the sun.

VIII. References

A. Hone, Elizabeth, Joseph, Alexander, and Victor, Edward, A Sourcebook for Elementary Science, Harcourt, Brace and World, Inc., pp. 161-162.

B. Schneider, Herman and Nina, Science for Here and Now, Teacher's Edition, D. C. Heath and Co., pp. 130-149, 344-353.

C. Schneider, Herman and Nina, Science Far and Near, D. C. Heath and Company, pp. 205-206.

IX. Audio Visual Aids

A. Pictures

1. Earth's curvature
2. Moon and its surface
3. Earth, moon and stars drawn by children
4. Moon shapes cut out of paper

B. Objects for experiments

1. Balls of different sizes
2. Globe and light
3. Signs showing east and west
4. Plastic or paper sheet, tape, stick, scissors
5. Flashlight, wax paper
6. Two dishes, black paper and ice cubes
7. Two glasses of water
8. Thermometer
9. White sheet of paper
10. Objects of various shapes
11. Cardboard box, a light bulb, a staff wire or bicycle spoke, red crayon, wooden or clay ball, and a knitting needle
12. balloon

C. Charts

1. Temperature record chart
2. Food chains
3. Chart on equipment worn and used by astronauts

Grade Level: 2

Unit No. VI: The Big Round Earth

Time: 3 weeks

Lesson Plan No. 1 (5 days)

I. Purposes of the Lesson

   A. To help children develop the concept that the sun gives the earth light and heat

   B. To develop the concept that living things need heat and light

   C. To develop the concept that the earth is round like a ball

   D. To develop the concept that we cannot see this roundness because we are on the earth

   E. To develop the concept that we can see the roundness of the sun and the moon because we see them from a distance

II. Provide Introduction (Motivational Experiences)

   A. Discussion

      1. The earth has a shape that is almost round. The earth turns (rotates) on its axis and revolves around the sun.

      2. The earth receives heat and light from the sun.

      3. The earth is round like a ball.

   B. Teacher-Pupil Sharing and Planning

      1. This man (astronaut) says the earth is round. (Explain)

      2. We cannot see the roundness of the earth.

      3. Why can't we see the roundness of the earth?

      4. Why do people say it is round like a ball?

      5. How can we find out if the world is round?

III. Activities (Class)

A. Collect pictures of earth's curvature taken from rockets and by astronauts. Discuss the pictures the boys and girls have seen on television.

B. Have the class collect information about the equipment worn and used by astronauts.

IV. Materials and Resources (Have available prior to lesson)

A. Pictures

1. Earth's curvature

2. Moon and its surface

B. Hone, Elizabeth, Joseph, Alexander and Victor, Edward, A Sourcebook for Elementary Science, New York: Harcourt, Brace and World, Inc., pp. 161-162.

C. Balls of different sizes

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. We cannot see any roundness.

2. Why can't we see the roundness of the earth?

3. This man (astronaut) is going far away from the earth.

4. What will the earth look like far away?

5. If we go away from the earth, we can see its roundness.

B. Teacher-Pupil Evaluation

Oral Quiz

Grade Level: 2

Unit No. VI: The Big Round Earth

Time: 3 weeks

Lesson Plan No. 2 (2 days)

I. Purposes of the Lesson

   A. To develop the concept that it is night when our part of the earth is turned away from the sun

   B. To develop the concept that it is day when our part of the earth is turned toward the sun

II. Review with Children Previous Day's Work

   A. Discussion

      1. Read and discuss pages 131-135 of the textbook, Science for Here and Now.

      2. The roundness (curvature) of the earth is readily apparent to an astronaut when he is more than 100 miles from the earth.

   B. Teacher-Pupil Sharing and Planning

      1. What will a man see when he is far away from an object?

      2. What is the shape of the earth?

      3. How can you explain that the earth is a round ball even though you can't see its roundness?

III. Activities

   A. Group

   Perform the experiment in the textbook, Science for Here and Now, page 132.

   B. Individual

   Show that distances change the visual appearance of objects by first holding a little ball close to you; then by holding a big ball close to you. You will see the roundness of the little ball, but not the roundness of the big ball.

C. Class

1. View the film, Big World, 11 minutes, color, Educational Horizons Films.

2. Use the textbook, Science for Here and Now 2, by Herman and Nina Schneider.

IV. Materials and Resources (Have available prior to lesson)

A. Balls of different sizes

B. Globe and light

C. Film, Big World, 11 min., color, Educational Horizon Films.

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. How can we see the roundness of the earth?

2. What is the shape of the earth?

3. Since we can't see the roundness of the earth what do we see?

B. Teacher-Pupil Evaluation of Lesson

1. How do we know that the earth is round?

2. How can we find out or prove it?

Grade Level: 2

Unit No. VI: The Big Round Earth

Time: 3 weeks

Lesson Plan No. 3 (6 days)

I. Purposes of the Lesson

- A. To develop the concept that the sun is much larger than the earth
- B. To develop the concept that the sun is a star
- C. To develop the concept that the sun gives off heat and light

II. Review with Children Previous Day's Work

- A. Discussion
  1. If the earth does not look round to us, then why do people say it is round like a ball?
  2. How can we find out whether this is true?
  3. How did the earth look to this man (astronaut) when he was very far away from it?
- B. Teacher-Pupil Sharing and Planning
  1. How many of us realize that our kind of day and night need not necessarily be the same as on other planets since a planet does not necessarily have to turn in the way that our earth does?
  2. What is the sun?
  3. What do we get from sunshine?
  4. What does the sequence of day and night on the earth depend on?
  5. What planet is always facing the sun? Why?
  6. If one side of the planet faces the sun all of the time what does this mean?
  7. How fast is the earth turning? (Explain)
  8. Why does the sun appear larger to us than the other stars?

9. How does the sun cause our day?

10. What happens when we block out the sun?

III. Activities

A. Class

1. Observe how the earth turns and how it causes day and night by shining a light, which is stationary, on a globe. Turn the globe slowly and observe how part of the globe is lighted where the light hits it. The rest of the globe is dark. (Be sure to place a flag on the U. S. to represent home.)

2. Find out if sunlight gives us heat. Get two dishes and place an ice cube in each. Set one dish in sunlight and the other out of the sunlight. Every five minutes measure each ice cube. Observe to see which cube melted faster.

3. View films, Primary Science, FS 550, which are available at the DeSoto Parish Materials Center.

   a. Night and Day

   b. The Earth

   c. The Night Sky

B. Group

1. Find out if the earth turns. Put a sheet of paper on the school ground. Put a stick in the middle of the paper. Then tape strips of paper where the shadow hits the paper at 9 A.M., Noon, and 3 P.M. Observe how the shadow moves.

2. Find out what a cloudy and sunny day are like. Shine a light over a child's shoulder as he reads a book. The child will be able to read it. Then do the same thing again with wax paper held near the light. This will represent a cloudy day.

because the light is not as bright.

3. Fill two glasses of water. Leave one in sunlight and the other in a dark place. The one in sunlight will get warmer than the one in a dark place. Let group check the temperature of the water and compare.

IV. Materials and Resources (Have available prior to lesson)

A. Pictures of the earth, moon, and the stars

B. Moon shapes cut out of paper

C. Filmstrips

D. Filmstrip projector and screen

E. Balls of different sizes

F. Globe and light

G. Signs showing east and west

H. Plastic or paper sheet, tape, stick, scissors

I. Flashlight and wax paper

J. Two dishes, black paper, and ice cubes

K. Two glasses of water

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. What causes day and night?

2. What do we get from the sun? (Name them)

3. Why does the glass in the sunlight get warmer than the one in the shade? (Explain)

4. What happens when the sun is blocked out?

B. Teacher-Pupil Evaluation of Lesson

Oral quiz

Grade Level: 2

Unit No. VI: The Big Round World

Time: 3 weeks

Lesson Plan No. 4 (2 days)

I. Purposes of the Lesson

A. To develop the concept that day and night are caused by the earth turning in the sunlight.

B. To develop the concept that shadows will be long in the morning, shortest at noon and will lengthen again in the afternoon.

II. Review with Children Previous Day's Work

A. Discussion

1. The sun is a star. When the sun shines what do we get from it?

2. The planet Mercury always has day on one side and night on the other side.

3. The sun appears larger to us than the other stars. Why?

B. Teacher-Pupil Sharing and Planning

1. Where would you have to be to see the sun on a cloudy day? Explain.

2. Does the sun ever stop shining? How do you know?

3. Does the earth stop moving?

4. You can see the sun on most days.

5. The sun isn't visible everyday but there is light on the earth. Why?

6. It is not like dark night. Why?

III. Activities

A. Class

Read and discuss pages [illegible] in Science for Work and Play.

B. Group

1. Do the experiment suggested on pages 140-141 in Science for Here and Now.

2. Do the experiment suggested on pages 138-139 in Science for Here and Now.

IV. Materials and Resources (Have available prior to lesson)

A. Science for Here and Now by Herman and Nina Schneider, Boston: D. C. Heath and Co., 1968, pp. 138-141.

B. Flag

C. Globe

D. Stick

E. Tape

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. You cannot see the earth turning.

2. We do not observe the actual turning of the earth, we do observe daily motions of the sun, moon, and stars in the sky.

3. The shadow will be long in the morning, shortest at noon, and will lengthen again in the afternoon.

4. The direction of the shadow changes from morning to afternoon, moving from west of north to east of north.

B. Teacher-Pupil Evaluation of Lesson

Teacher-Pupil discussion of important concepts gained through study and experimentation. Keep in mind the purposes of the lesson and evaluate in terms of what has been accomplished.

Unit VII

I. Grade Level: 2

Title: The Earth's Gravity

Time: 1 week

II. Content

A. We cannot see gravity, but we can see and feel what it does.

B. Many of our activities depend on the force of gravity for their success.

III. Understandings

A. The earth's gravity pulls on everything.

B. "Up" is away from the earth.

C. "Down" is toward the earth.

D. If a satellite moves fast enough, it is not pulled down by the earth's gravity.

IV. Problems

A. If you throw an object up, why does it fall down?

B. What other things always fall down?

C. What activities are pictured on pp. 150-151 that you like to do but, which wouldn't be possible without gravity?

D. Where is up?

E. Where is down?

F. Why does jumping take so much effort?

G. Why doesn't the earth's gravity pull the moon and satellite back to earth?

V. Activities

A. Acquaint the children with a globe. Help them to locate the United States, their state and city and places they have visited or with which they have become particularly familiar.

B. Suspend a weight by a heavy string. Move the weight to one side several times and let it swing freely. Make a chalk mark where the weight stops each time. Note how it always comes to rest at the same place. Note where the place is.

C. Blindfold a child. Place one object at a time within his reach. Use objects such as a very large box, a small box, marbles, blocks of various sizes and shapes. Include triangular and cylindrical shapes. The child must try to guess the shape of the objects he touches. If he guesses the shape of an object correctly, he may go on to the next object. If he does not guess correctly, another child takes his place. In this game, the children should be able to discover that the shape of an object is often difficult to detect because of its size.

D. Discuss activities in which the pull of gravity must be overcome. Examples are: lifting objects, walking up stairs, and jumping. Draw or collect pictures of things that help us overcome gravity (elevator, escalator, pulley, crane).

E. Weigh several different objects. Record the weight of each object; then have the children try to lift each object. Help the children to see that the heavier an object is, the greater will be the pull of gravity on it. Which recorded weight will be greater?

F. Prepare experiments and let the pupils perform them.

VI. Vocabulary

gravity
toward
straight
hang
circle
speed

VII. Evaluation

A. Evaluation should go on continually throughout the suggested activities.

B. Let pupils summarize what they have learned orally.

VIII. References

A. Schneider, Herman and Nina, Science for Here and Now, Teacher's Edition, D. C. Heath and Company, pp. 150-159.

B. Schneider, Herman and Nina, Science for Work and Play, D. C. Heath and Company, pp. 79-87.

IX. Audio Visual Aids

A. Filmstrip--Earth is a Big Turning Ball, 1 filmstrip, color, Health Science Filmstrips. See Teacher's Edition.

B. Encourage pupils to bring pictures of an escalator and an elevator to school.

C. World globe

Grade Level: 2

Unit No. VII: The Earth's Gravity

Time: 1 week

Lesson Plan No. 1 (1 day)

I. Purposes of the Lesson

A. The purpose is to help the children learn that a natural force known as gravity is responsible for many phenomena which are part of their daily lives. Although children of this age are well acquainted with these phenomena, many of the children do not know what causes them.

B. To make them aware of the effects of gravity

II. Provide Introduction (Motivational Experiences)

A. Discussion

Review lesson six. Pupils will discuss the electric toys and the different kinds of electric wire they brought to class.

B. Teacher-Pupil Sharing and Planning

1. What is happening on page 151 of the textbook: Science For Here and Now by Schneider?
2. Why are the parachute jumpers going toward the earth?
3. I will suspend an object on a string from a ruler. I will ask one child to hold the ruler and another to cut the string. Repeat a few times with different objects. I'll ask: Why did (name the object) fall down?

III. Activities

A. Individual

Acquaint pupils with the globe. Help them to locate the United States, Louisiana, and other familiar places they have visited, read or talked about.

B. Group

1. Where is up? (Away from the earth)

2. Where is down? (Toward the center of the earth)

C. Class

Pupils will read pages 150-151 in textbook: Science for Here and Now, Third Edition.

IV. Materials and Resources (Have available prior to lesson)

A. Strings

B. Textbooks: Science for Here and Now

C. Ruler

D. Nails, etc.

E. Paper cutouts

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

Summarize lesson taught.

B. Teacher-Pupil Evaluation of Lesson

Oral quiz on gravity.

Grade Level: 2

Unit No. VII: The Earth's Gravity

Time: 1 week

Lesson Plan No. 2 (2 days)

I. Purposes of the Lesson

A. To encourage pupils to become more aware of the word gravity

B. To acquaint the pupils with the meaning of the word gravity (weight and heaviness)

II. Review with Children Previous Day's Work

A. Discussion

1. Review lesson one.

2. Pupils will discuss the globe.

3. Where is up? (away from the earth)

4. Where is down? (toward the earth)

B. Teacher-Pupil Sharing and Planning

1. I will demonstrate "up" and "down" by placing a small rod of modeling clay on the upper most part of the globe. The clay will point straight up (as we understand up). I will let a child rotate the globe one-half turn. The clay rod will not point in the same direction it did previously, but it is still pointing up in relation to the globe.

2. I will explain to the children that "up" and "down" are directions just as north and south are directions.

III. Activities

A. Individual

I will suspend a weight by a heavy string. Move the weight to one side several times and let it swing freely. Make a chalk mark where the weight stops each time. Note how it comes to rest at the sample place. Note where the place is.

B. Group

Blindfold a child. Place one object at a time within his reach. Use objects such as a very large box, a small box, marbles, blocks of various sizes and shapes. Include triangular and cylindrical shapes. The child must try to guess the shape of the objects he touches.

C. Class

1. Pupils will read pages 152-154 in textbook, Science for Here and Now 2.
2. Pupils will do experiment on page 154 of the textbook.

IV. Materials and Resources (Have available prior to lesson)

A. Textbook--Science for Here and Now, Third Edition

B. Strings

C. Large box and small box

D. Clay

E. Globe

F. Marbles

G. Blocks

H. Chalk and chalkboard

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

Summarize lesson taught.

B. Teacher-Pupil Evaluation of Lesson

Oral quiz

Grade Level: 2

Unit No. VII: The Earth's Gravity

Time: 1 week

Lesson Plan No. 3 (2 days)

I. Purposes of the Lesson

   A. To acquaint the pupils with each picture in the lesson

   B. To teach pupils that it's important to observe pictures carefully

II. Review with Children Previous Day's Work

   A. Discussion

      1. Review lesson two.

      2. Children will discuss the outcome of the experiments.

   B. Teacher-Pupil Sharing and Planning

      1. Pupils will plan to do experiment on page 154 in textbook. The force of gravity pulls the ball straight down.

      2. What would happen if you started swinging the ball around and around?

      3. Do experiment on page 155 of textbook. Tell children to make the ball go in circles. This shows how to overcome the force of gravity.

III. Activities

   A. Individual

   Discuss activities in which the pull of gravity must be overcome. Examples are: lifting objects, walking up stairs, and jumping. Draw or collect pictures of things that help overcome gravity - elevators, escalators, pulley, and crane.

   B. Group

   Weigh several different objects. Record the weight of each object.

Then have the children try to lift each object. Help the children see that the heavier an object is, the greater will be the pull of gravity on it. The recorded weight will be greater.

C. Class

Prepare the experiments and let pupils perform them.

IV. Materials and Resources (Have available prior to lesson)

A. Textbook--Science for Here and Now, Third Edition

B. Chalk and chalkboard

C. Drawing paper and crayons

D. Pictures

E. Strings

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

B. Teacher-Pupil Evaluation of Lesson

Oral quiz based on purposes listed

Unit VIII

I. Grade Level: 2

Title: Electricity

Time: 2 weeks

II. Content

A. Electricity comes to us from an outside source and is the result of men and machines working together.

B. Without the power of electricity a great many of the comforts that children take for granted could not exist.

C. The children will discover that electricity travels in a circuit from the source of power to the device that it operates.

D. There are different degrees of strength in electricity and it should be handled with respect.

E. Electricity from a dry cell will seem to be weak, while electricity from the power house is strong and dangerous and could hurt the children.

III. Understandings

A. Electricity is used for electric light in our homes.

B. Electricity is also used in other ways.

C. Electricity comes to our homes through wires.

D. We need at least two wires for electricity to flow.

E. House electricity is powerful and can be dangerous.

F. Electricity for most uses comes from a powerhouse.

G. The powerhouse contains machines called electric generators.

H. Another source of electricity is a battery.

IV. Problems

A. How do we get electricity?

B. Where does it come from?

C. Why can't dry cells be used for the electricity in your house?

D. How does the electricity get into your house?

E. What does the powerhouse have that mkes the electricity?

V. Activities

A. Bring a flashlight to school. Take it apart. Show what is inside. Tell how a flashlight works.

B. Make a bell ring. Connect a bell to a dry cell. Trace the path the electricity takes.

C. Make a collection of different kinds of bulbs. How are they alike? How are they different?

D. Take an old lamp cord apart. Notice that there are two wires under the covering.

E. Bring in toys that work by electricity. Do they all use the same kind of sources of electricity?

F. Bring in different kinds of electric wires. Compare them.

G. Draw a picture of an electric pole. Show the wires leading into the house. Where do they go in the house?

H. Make different kinds of connection to bells, buzzers, and lights.

I. Prepare simple experiments for the children to try out.

VI. Vocabulary

speed
bulb
powerhouse
electricity
itself
wires
electric

VII. Evaluation

   A. Give pupils an oral quiz.

   B. Let pupils tell what they have learned about electricity.

VIII. References

   A. Victor, Edward, Science for the Elementary School, Second Edition, The McMillan Company, pp. 395-397.

   B. Schneider, Herman and Nina, Science for Here and Now, Teacher's Edition, pp. 130-141, 128-135.

IX. Audio Visual Aids

   A. Let pupils bring in pictures of electric poles.

   B. Collect pieces of electric wires.

   C. Electric toys

   D. Electric lamp

   E. Lamp cords

   F. Bulbs

   G. Flashlight

   H. Films

Grade Level: 2

Unit No. VIII: Electricity

Time: 2 weeks

Lesson Plan No. 1 (2 days)

I. Purposes of the Lesson

- A. To introduce the unit center
- B. To acquaint pupils with electricity as a source of power
- C. To develop the concept that electricity comes to us from an outside source and is the result of men and machines working together

II. Provide Introduction (Motivational Experiences)

- A. Discussion
  - 1. Review Lesson 11.
  - 2. Pupils will discuss their drawings.
- B. Teacher-Pupil Sharing and Planning
  - 1. Pupils tell what they know about electricity.
  - 2. List the ways electricity helps us.
    - a. Gives us light
    - b. Gives us power
    - c. Gives us radio or T.V. messages
    - d. Gives heat and cooling
    - e. Makes work easy with machines

III. Activities

- A. Individual
  - 1. Let pupils read silently pages 160-161 in the textbook: Science For Here and Now 2 by Schneider.
  - 2. Pupils will name ways in which we use electricity.
  - 3. They will find out why they need electricity in the home.

B. Group

1. Pupils will discuss the question: How do we get electricity? (through wires)

2. Where does it come from? (generator at power plant)

C. Class

They will discuss the picture on page 160 in the textbook.

IV. Materials and Resources (Have available prior to lesson)

A. Chalkboard and chalk

B. Pictures

C. Textbook--Schneider, Herman and Nina, Science for Here and Now, Third Edition, Boston: D. C. Heath and Co., 1968.

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

Summarize lesson materials used.

B. Teacher-Pupil Evaluation of Lesson

Pupils will discuss facts about electricity emphasized in stated purposes of this lesson and discussed in the textbook presentation.

Grade Level: 2

Unit No. VIII: Electricity

Time: 2 weeks

Lesson Plan No. 2 (1 day)

I. Purposes of the Lesson

To stimulate the idea that without the power of electricity a great many of the comforts that children take for granted could not exist

II. Review with Children Previous Day's Work

A. Discussion

1. Review lesson no. 1.
2. Review ways that electricity is at work for us.

B. Teacher-Pupil Sharing and Planning

1. List questions that pupils wish to know about electircity.
2. Learn the ways electricity is at work for us in daily life:
   a. Runs elevators
   b. Pumps water
   c. Sends messages by telegraph
   d. Does our cocking
3. Children decide to make electricity.

III. Activities

A. Individual

Let pupils read the directions for the experiment on pages 162-163 in the textbook.

B. Group

Pupils will do the preparation for the experiment on pages 162-163 to make electricity.

C. Class

They will discuss the results of the experiment.

IV. Materials and Resources (Have available prior to lesson)

A. Textbook--Science for Here and Now

B. Chalkboard and chalk

C. A dry cell battery

D. Wire (insulated)

E. A light bulb

F. A lamp base (socket)

G. A screwdriver

H. Scissors or wire snips

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

Summarize the lesson concepts.

B. Teacher-Pupil Evaluation of Lesson

Pupils will discuss the learning activities and concepts developed through carrying out the activities suggested in the textbook.

Grade Level: 2

Unit No. VIII: Electricity

Time: 2 weeks

Lesson Plan No. 3 (1 day)

I. Purposes of the Lesson

To acquaint pupils with the way electricity travels. (The children will learn that electricity travels in a circuit from the source of power to the device that it operated.)

II. Review with Children Previous Day's Work

A. Discussion

1. Review lesson no. 2.

2. Discuss the results of preparing to experiment with electricity.

B. Teacher-Pupil Sharing and Planning

1. What did we learn about electricity?

a. It travels.

b. It travels along a pathway.

2. What are electrons?

Negative charges

3. What are protons?

Positive charges

III. Activities

A. Individual

Pupils will read the directions for completing the experiment on pages 164-165.

B. Group

Children will discover that dry cells are harmless, since their voltage, or strength, is not high enough to hurt anyone.

C. Class

The pupils may still ask the question how the dry cell can produce electricity. (When certain chemicals are placed together, electricity is produced).

IV. Materials and Resources (Have available prior to lesson)

A. Textbook: Science for Here and Now

B. Chalkboard and chalk

C. Dry cell battery

D. Lamp hose (socket)

E. Screwdriver

F. Snips or scissors

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

Summarize the lesson on electricity.

B. Teacher-Pupil Evaluation of Lesson

Pupils will discuss what they have learned about how electricity travels from its source to the place where it operates.

Grade Level: 2

Unit No. VIII: Electricity

Time: 2 weeks

Lesson Plan No. 4 (2 days)

I. Purposes of the Lesson

A. To discuss why and how care should be exercised in using electricity

B. To acquaint pupils with the ways in which you use electricity in everyday life

II. Review with Children Previous Day's Work

A. Discussion

1. Review lesson no. 3

2. Children will explain what they learned from the experiment to find how electricity flows when there is a complete path or circuit.

B. Teacher-Pupil Sharing and Planning

1. Playing safe with electricity is important. (Never turn on electricity when you are touching water, etc.)

2. List ways in which you use electricity every day.

3. Find and bring pictures of machines showing how electricity makes things move.

III. Activities

A. Individual

Pupils will read pages 166-169 silently and study the pictures.

B. Group

1. List ways you use electricity every day.

2. Pupil will observe and discuss the questions and pictures on

page 168.

C. Class

Children will discuss and display the pictures they collected showing electrical appliances.

IV. Materials and Resources (Have available prior to lesson)

A. Textbook--Science for Here and Now 2

B. Pencils and paper

C. Chalkboard and chalk

D. Pictures

E. Straws

F. Coins

G. Nail, paper clip and thread

H. Dry cell, wire and lamp base

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

Summarize the fact that electric current flows from the power source to the objects that work.

B. Teacher-Pupil Evaluation of Lesson

Pupils will discuss their understanding of electric current and its use in everyday life.

Grade Level: 2

Unit No. VIII: Electricity

Time: 2 weeks

Lesson Plan No. 5 (2 days)

I. Purposes of the Lesson

- A. To teach the danger of electricity if it's not handled with care
- B. To sustain continued interest in electricity
- C. To develop the habit of using electricity appropriately

II. Review with Children Previous Day's Work

- A. Discussion
  1. Review lesson no. 4.
  2. Let pupils explain what they learned from the experiment with the dry cell, wire and bulb.
- B. Teacher-Pupil Sharing and Planning
  1. Discuss how electricity has affected our way of living.
  2. Compare with ways of living before electricity was discovered or made available to people for use in homes and businesses.

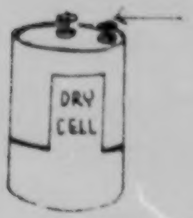
III. Activities

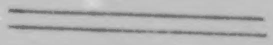
- A. Individual

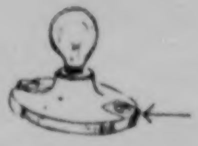
  Pupils will reread pages 162-165 to check their understanding of electric current.

- B. Group

  Pupils will do a free hand drawing of the dry cell and label each part.

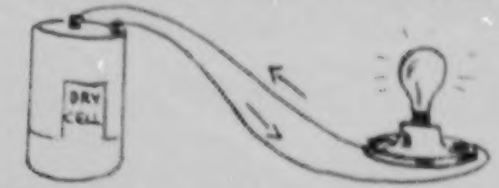






C. Class

Watch electricity at work again. Fasten wires.



Wires make a complete circuit so electricity can flow.

IV. Materials and Resources (Have available prior to lesson)

A. Textbook: Science For Here and Now, Third Edition.

B. Pencils and drawing paper

C. A dry cell

D. Lamp base and bulb

E. Wire

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

Summarize lesson covered

B. Teacher-Pupil Evaluation of Lesson

Pupils will review learnings and discuss ways of practicing safety in using electricity in the home.

Grade Level: 2

Unit No. VIII: Electricity

Time: 2 weeks

Lesson Plan No. 6 (2 days)

I. Purposes of the Lesson

  A. To help pupils understand that electricity from a dry cell will be weak, while electricity from a power house is strong and dangerous and could hurt people

  B. To acquaint pupils with all kinds of bulbs

II. Review with Children Previous Day's Work

  A. Discussion

    1. Review lesson no. 5.

    2. Let pupils discuss their drawings and tell what they learned from them.

  B. Teacher-Pupil Sharing and Planning

  Bring a flashlight. Take it apart to show what's inside. Explain how it works.

III. Activities

  A. Individual

  Take an old lamp cord apart. Notice that there are two wires under the covering or insulation.

  B. Group

  Bring in toys that work by electricity. Do they all use the same sources of electricity?

  C. Class

    1. Bring to class different kinds of electric wires. Compare them.

    2. Have the class to discuss what life would be like if we

stopped receiving electric energy from the power company.

IV. Materials and Resources (Have available prior to lesson)

  A. Textbook--Science for Here and Now 2, Third Edition by Schneider

  B. Pencils and paper

  C. Toys

  D. Drawing paper and crayons

  E. Wire (electric and lamp cord)

V. Summary and Evaluation of Lesson

  A. Teacher's Review of Lesson

  Summarize lesson materials covered.

  B. Teacher-Pupil Evaluation of Lesson

  Oral quiz to help pupils state concepts about electricity--its uses and dangers

Unit IX

I. Grade Level: 2

Title: Work and Play with Magnets

Time: 2 weeks and 3 days

II. Content

A. Magnets attract things made of iron.

B. Magnets can attract or repel other magnets.

C. There are several kinds of magnets.

D. Magnets usually have two poles.

III. Understandings

A. Magnets pull things made of iron, even through non-magnetic materials.

B. Magnets attract iron things of many different colors, shapes, and sizes.

C. Magnets can be used to make other magnets; these magnets work in the same way as the magnet that made them.

D. The unlike poles of two magnets attract each other; the like poles repel each other.

E. An electric magnet is made by winding wire around a piece of iron, such as a nail.

F. An electric magnet is a magnet only when it is connected to a source of electricity.

G. A compass is a magnetic needle that can turn.

H. The compass needle points north and south to the magnetic poles of the earth.

I. A compass helps us find direction.

IV. Problems

A. In what places around the home are magnets used?

B. What are different shapes of magnets?

C. What objects does a magnet pull?

D. Can a needle be made into a magnet?

E. What is the difference between permanent magnets and objects that are attracted to magnets but that are not themselves magnets?

F. When is a nail a magnet?

G. Who might use a compass?

H. What are different types of compasses?

I. How does a compass work?

J. Is the earth a magnet?

K. What are the two poles of the earth?

L. What is the importance of a compass at sea?

M. What do magnetic fields and lines of force look like?

N. Can the force of a magnet pass through a non-magnetic field?

V. Activities

A. To show magnetic fields and lines of force, place a sheet of cardboard or window glass over a bar magnet. Sprinkle iron filings or tiny bits of cut-up steel wool over the cardboard, and then tap the cardboard gently a few times. The filings will rearrange themselves to form a definite pattern, showing the magnetic field and the lines of force located within the field. Repeat the activity, using two bar magnets with the north-seeking pole of one bar magnet about 2 inches away from the south-seeking pole of the other bar magnet. Repeat the activity, this time placing two like poles near each other.

B. Have two boxes, one labeled "Yes" and the other labeled "No". Give the children a chance to go around the room testing things with magnets. Have many objects available. Let the children offer objects of their own to be tested. Group the objects or names of objects in the "Yes" box if it is attracted to magnets; put it in the "No" box if the magnet does not attract it. List the results in Yes and No columns on the chalkboard or a poster. Record what each object is made of.

C. Make a chart to show what magnets attract.

D. Make a list of things in which magnets are used to make work easier, such as magnetic bulletin boards, magnetic pencils, and trays in cars.

E. Make an exhibit of magnets used in the home.

F. Make a magnet out of a needle by stroking it in one direction across one pole of a strong magnet. Stroke it fifteen or twenty times.

G. Dip a magnet into a box of paper clips. Hold the magnet. Note how the clips form a string, one holding onto the other. See how long the clips hold tothether after they have been removed from the magnet.

H. Talk about watches that have become magnetized.

I. Place a sheet of cardboard on top of two poles placed a few inches apart. Put some thumbtacks on the cardboard and then slide a magnet along the underside of the cardboard. The magnet will attract the tacks and make them move. Do the same thing using sheets of glass, wood, aluminum foil, and cloth instead of cardboard. Then use a sheet of iron in the same way to show the tacks will not move.

J. Push a magnetized needle into a piece of wood to make a boat. Put the boat into water. Try each pole of a permanent magnet to see which pole would pull the boat and push it away. A doll may be placed on the needle to add interest.

K. Play a magnetic fish game by using magnetized needles slipped into paper cutout fish. Number each fish. Have the children use a pole with a magnet suspended from it to catch three fish. Add the numbers. The highest total score wins the game.

L. Make an electromagnet by wrapping insulated wire around a nail. Attach the two ends of the wire which were stripped of insulation to a dry cell. As long as both ends of the wire are attached to the dry cell, the nail will be a magnet; if one end of the wire is not attached, the nail is not a magnet.

M. Make an exhibit of objects or pictures of objects that use electromagnets. Take an electric bell apart.

N. Put a magnetized needle on a piece of wood. Place the wood in water. Do not use an iron pan. The needle will turn and stop. Make a mark on the dish where the needle points. Turn the needle away and see if it will turn back to the mark. Be sure the sharp end of the needle was magnetized by the north pole of the magnet.

O. Let the children bring in and exhibit compasses of different kinds.

P. Have a commercial compass for the children to examine. Talk about the parts of a compass and how it works.

Q. Make a list of people who need a compass to help them in their work. Examples are aviators, navigators of boats, woodsmen, and surveyors.

R. Allow a bar magnet to swing freely by cradling it in a piece of copper wire and connecting the wire with string to a ruler in a pile of books. Bring the north-seeking pole of another magnet near the north-seeking pole of the suspended magnet. Do the same thing with the south-seeking poles of both magnets. Now bring the north-seeking pole of the magnet in your hand near the south-seeking pole of the suspended magnet. Note that like poles repel each other and unlike poles attract each other.

S. Make a permanent magnet with electricity. Obtain a cardboard tube, such as a mailing tube, about 10 inches long and 1 inch in diameter. Obtain some insulated thin copper wire, no. 26 or 28, from the hardware store. Wind the wire around the tube, covering almost all of the tube, leaving about 2 feet of wire free at each end. Connect two dry cells in series. Place a steel knitting needle all the way into the cardboard tube. Now touch the two end wires to the terminals of the dry cells for 2 or 3 seconds only. Remove the needle and test it for magnetism by picking up tacks and other iron or steel objects. The needle is now a strong, permanent magnet. (See appropriate lesson plan)

T. Make a simple telegraph set. Nail a 3 inch cube block of wood to a wood board about 12 inches long. Nail a strip of iron about 5 inches long and 1 inch wide to the top of the wood block. Drive a large roofing nail into the board so that its head is just below the metal strip. This is the sounder. To make the telegraph key, nail one end of the second metal strip to the board using two nails but driving one nearest the middle only partially into the board. Drive the smaller roofing nail partially into the board so that its head is under the metal strip. Now wire the key and sounder, as shown in the diagram, using about 50 turns of wire around the nail. When you press the key, the sounder will click. (See appropriate lesson plan)

U. Label the directions north, south, east and west in the classroom. Talk about the north and south poles of the earth.

VI. Vocabulary

magnet
prize
magnetic
difference
pole
compass
bar
tacks
telegraph

VII. Evaluation

A. Make a picture of things a magnet will attract.

B. Written quiz

VIII. References

A. Childcraft, Field Enterprises Educational Corporation, 1970, Vol. 8, pp. 18-19, 186-187, 190-191.

B. Schneider, Herman and Nina, Science for Here and Now, Teacher's Edition, D. C. Heath and Company, pp. 370-379, 170-187.

C. Victor, Edward, Science for the Elementary School, Second Edition, The MacMillan Company, pp. 738-744.

D. World Book Encyclopedia, David C. Whitney, managing editor, "Magnets and Magnetism", Chicago: Field Enterprises Educational Corporation, 1962, Vol. 12, pp. 52-54.

IX. Audio Visual Aids

A. Materials and Equipment for Experiments

1. Needles
2. Magnets

        a. bar
        b. horseshoe
    3. Small pieces of wood
    4. Water
    5. Pan
    6. Dry cell
    7. Nails
    8. Wire
    9. Dishes
    10. Compasses
    11. Tacks and paper clips
    12. Tin
    13. Steel wool
    14. Cardboard, glass

B. Chart showing what magnets attract

C. Pictures showing how electromagnets are used.

rade Level: 2

nit No. IX: Work and Play with Magnets

ime: 2 weeks, 3 days

Lesson Plan No. 1 (3 days)

I. Purposes of the Lesson

A. To understand that magnets pull (attract) things made of iron, even through non-metallic materials

B. To understand that magnets attract iron objects of many different colors, shapes, and sizes

C. To get interested in magnets

II. Provide Introduction (Motivational Experiences)

A. Discussion

1. Do you like to play with magnets? Why?
2. What kind of games do you have that use magnets?
3. How are magnets used in your home?

B. Teacher-Pupil Sharing and Planning

1. What shapes of magnets do I have?
2. What will they pick up?

III. Activities

A. Individual

1. Read silently then orally page 171 in Science for Here and Now.
2. Read silently then orally page 172 in Science for Here and Now.
3. Read page 191 of Childcraft, Vol. 8, to find out how generators use magnets. (for bright child)

B. Group

1. Make a list of things in which magnets make work easier.
2. Make an exhibit of magnets used in the home.

3. Make a chart to show what magnets attract.

C. Class

1. Refer to activity B, Unit Plan IX.
2. Refer to activity I, Unit Plan IX.

IV. Materials and Resources (Have available prior to lesson)

A. Magnets of different shapes

B. Two boxes labeled "Yes" and "No"

C. Metallic objects

1. Paper clips
2. Thumbtacks
3. Paste jar lids
4. Steel wool
5. Aluminum foil
6. Sheet of iron

D. Non-metallic objects

1. Paper
2. Wood
3. Glass
4. Plastic
5. Cloth
6. Two poles

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. We know now that a magnet will attract objects made of iron.
2. We know that the color and shape of an object does not make any difference.
3. We know that magnets are used in the home in many ways.

4. There are different shapes and sizes of magnets.

B. Teacher-Pupil Evaluation of Lesson

1. What kind of objects will a magnet attract? What will it not attract?
2. Does the object have to be a special color?
3. Does it have to be a special shape?
4. What does the object have to be made of for a magnet to attract it?

Grade Level: 2

Unit No. IX: Work and Play with Magnets

Time: 2 weeks, 3 days

Lesson Plan No. 2 (3 days)

I. Purposes of the Lesson

  A. To understand that magnets can be used to make other magnets and that these magnets work in the same way as the magnet that made them

  B. To understand that magnets usually have two poles

    1. The unlike poles of two magnets attract each other.

    2. The like poles repel each other.

II. Review with Children Previous Day's Work

  A. Discussion

    1. What kind of objects will a magnet attract? What will it not attract?

    2. Does the magnet have to be a specific color?

    3. Does it have to have a special shape?

    4. What does the object have to be made of for a magnet to attract it?

    5. How are magnets used in the home?

    6. How do magnets make things easier?

  B. Teacher-Pupil Sharing and Planning

    1. I have a few magnets on this table. Who would like to pick up something with it?

    2. How could we all have a magnet to work with?

    3. Can a needle be made into a magnet?

    4. Would you like to find out how?

III. Activities

A. Individual

1. Read pages 173-174, silently, then orally, in Science for Here and Now, by Herman and Nina Schneider.
2. Read silently and orally page 175-176 in Science for Here and Now.
3. Dip a magnet into a box of paper clips. Hold up the magnet. Note how the clips form a string, one holding onto the other. See how long the clips hold together after they have been removed from the magnet.

B. Group

1. Make a magnet out of a needle by stroking it in one direction across one pole of a strong magnet. Stroke it fifteen or twenty times. If one pole of the magnet will repel the needle, the needle is magnetized.
2. Refer to activity K, Unit Plan IX.
3. Refer to activity J, Unit Plan IX.
4. Refer to activity R, Unit Plan IX.

C. Class

1. Refer to activity A, Unit Plan IX.
2. Talk about watches that have become magnetized.

IV. Materials and Resources (Have available prior to lesson)

A. Science for Here and Now, pp. 173-176

B. Magnets

C. Paper clips and box

D. Needles

E. Paper fish, pole and string

F. Paper doll, wood, water, non-metallic pan

G. Copper wire, ruler, books

H. Cardboard, or window glass, iron filings or steel wool

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. In this lesson we learned we can make needles and paper clips into temporary magnets.

2. We learned that they work in the same way as the permanent magnet

3. We also learned that magnets usually have two poles, one north and one south.

4. We learned that north poles of two magnets repel each other.

5. We learned that south poles of two magnets repel each other.

6. We learned that north and south poles of different magnets attract each other.

B. Teacher-Pupil Evaluation of Lesson

1. Let us have a science bee. You will divide into two teams. I will ask you some questions about magnets. If you know the answer, you may stay with your team. If you miss it, you have to sit down. The team that has the most pupils wins.

2. Here are the questions.

a. Can you pick up a string of paper clips not tied together with one magnet?

b. Will the clips stay together when the magnet is removed?

c. How do you make a magnet out of a needle?

d. How many poles does a magnet have?

e. What are the poles called?

f. How do you push a magnetized needle boat that has a north pole? A south pole?

g. How do you pull a magnetized needle boat that has a north pole? A south pole?

h. Will north poles of two magnets pull together?

i. Will the north pole of one magnet stick to the south pole of another magnet?

j. Will the south poles of two magnets pull together?

k. Can a watch become magnetized?

l. Will a magnet pick up a tack?

m. Will a magnet pick up an eraser?

n. Will a magnet pick up a pencil? What part of it?

o. Name one way magnets are used in the home. (Ask this question of several children.)

p. Will a magnet pick up a paper clip?

q. Will a magnet pick up paper?

r. Will a magnet pick up a small piece of glass?

s. Will a watch run if it is magnetized?

t. Does a generator use a magnet?

u. Can a magnet be shaped like a bar?

v. Can a magnet be shaped like a horseshoe?

w. Will a magnet pick up a blue needle?

x. Will a magnet pick up a red tack?

y. Will a magnet pick up a square screw?

z. Will a magnet pick up a round tack? What does this prove about shapes of objects?

Grade Level - 2

Unit No. IX: Work and Play with Magnets

Time: 2 weeks, 3 days

Lesson Plan No. 3 (3 days)

I. Purposes of the Lesson

  A. To show that an electric magnet can be made by winding wire around a piece of iron, such as a nail

  B. To prove that an electric magnet is a magnet only when it is connected to a source of electricity

II. Review with Children Previous Day's Work

  A. Discussion

    1. How did we make a magnet out of a needle?

    2. How many poles has a magnet? What are they called?

    3. Will the north pole of one magnet attract the south pole of another magnet?

    4. Will the same poles of two magnets attract each other?

    5. How can we make a magnet out of paper clips?

  B. Teacher-Pupil Sharing and Planning

    1. Is a nail a magnet? Try to pick up a tack with this nail. No, a nail is not a magnet.

    2. I wonder how we can make a nail a magnet.

    3. Let's find out.

III. Activities

  A. Individual

    1. Read silently and orally pages 177-180 in Science for Here and Now.

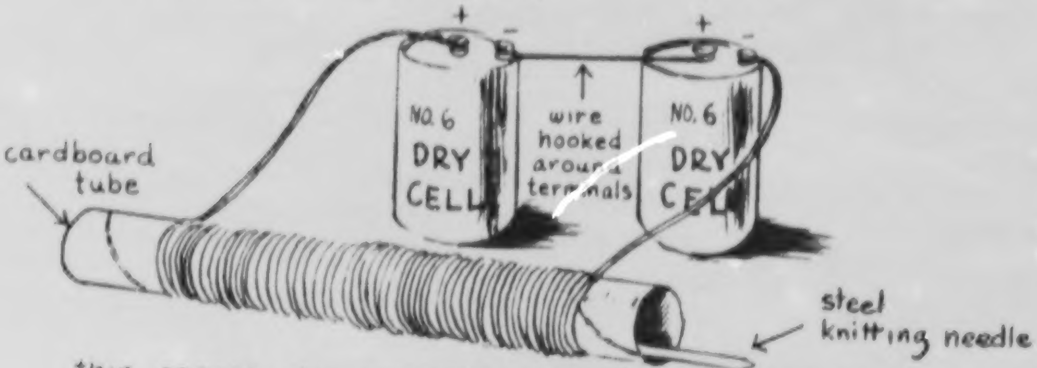
    2. Read and report on the doorbell, pages 18-19 in Childcraft,

Vol. 8, 1970.

B. Group

1. Make an electromagnet. Refer to activity L, Unit Plan IX.

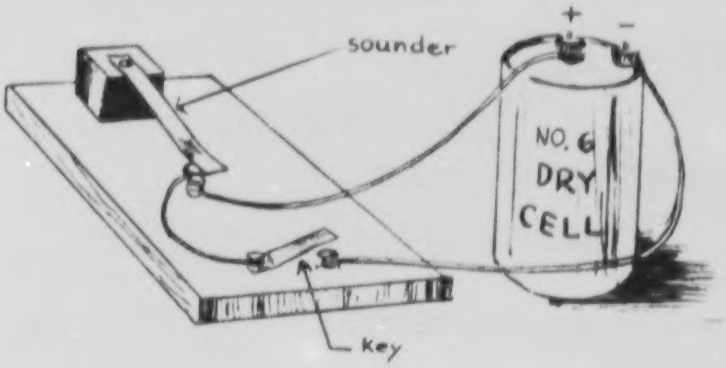
2. Make a permanent magnet with electricity. Refer to activity S, Unit Plan IX. (See diagram.)



thin copper wire wrapped around cardboard tubing

3. Take an electric bell apart.

4. Make a simple telegraph set. Refer to activity T, Unit Plan IX. (See diagram.)



5. Make an exhibit of objects or pictures of objects that use electromagnets.

C. Class

Discuss how each object, or picture of an object, uses electromagnets.

IV. Materials and Resources (Have available prior to lesson)

A. Several no. 6 dry cells

B. A cardboard tube

C. Copper wire

D. Pictures of objects that use electromagnets

E. Objects that use electromagnets

F. A three-inch cube block, 12" long wood board, 1" x 5" strip of iron, large roofing nail, smaller roofing nail, dozen nails

G. Steel knitting needle

H. Childcraft, Field Enterprises Educational Corporation, 1970, Vol. 8, pp. 17-18.

I. Schneider, Herman and Nina, Science for Here and Now 2, D. C. Heath and Co., 1968, pp. 177-180.

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. We learned how to make an electromagnet by using electricity, a copper wire and no. 6 dry cell, and a nail.

2. Remember we wrapped the wire around the nail, then stripped both ends of the wire of insulation. Next, we attached the ends to the dry cell.

3. When both ends touched the dry cell, the nail was a magnet. When one end of the wire did not touch the dry cell, the nail

was not a magnet.

4. We learned a doorbell and other objects use electromagnets to make them work.
5. We learned, with two dry cells, we can make a permanent magnet out of a steel knitting needle.
6. We also learned how to make a telegraph.

B. Teacher-Pupil Evaluation of Lesson

1. Have someone to tell the class how to make an electromagnet.
2. What things use electromagnets?
3. How do you make a telegraph?
4. How many dry cells do you need to make a permanent magnet?
5. Will a nail stay magnetized if it is not attached to electricity?

Grade Level: 2

Unit No. IX: Work and Play with Magnets

Time: 2 weeks, 3 days

Lesson Plan No. 4 (2 days)

I. Purposes of the Lesson

  A. To learn that a compass is a magnetic needle that can turn

  B. To learn that the compass needle points north and south to the magnetic poles of the earth

  C. To learn that a compass helps us find direction

II. Review with Children Previous Day's Work

  A. Discussion

    1. How did we make an electromagnet?

    2. What things did we say used electromagnets?

    3. How do you make a telegraph?

    4. How many dry cells did we need to make a permanent magnet?

    5. Will a nail stay magnetized if it is not attached to electricity?

  B. Teacher-Pupil Sharing and Planning

    1. How many of you have been lost?

    2. How did you find your way home?

    3. If you had known which direction your home was, it would have been easy to find.

    4. Are north, south, east, west the directions we use to find our way?

    5. Does a compass show us where north, south, east and west are?

III. Activities

  A. Individual

    1. Read silently and orally page 181 in Science for Here and Now by Herman and Nina Schneider.
    2. Read pages 182-183 in Science for Here and Now.
    3. Read silently and orally pages 184-185 in Science for Here and Now.
    4. Read silently and orally page 186 in Science for Here and Now.
  - B. Group
    1. Refer to activity N, Unit Plan IX.
    2. Label the directions south, north, east and west in the classroom.
    3. Let the children bring in and exhibit compasses of different kinds.
  - C. Class
    1. Have a commercial compass for the children to examine. Talk about the parts of a compass and how it works.
    2. Make a list of people who need a compass to help them in their work. Examples are aviators, navigators of boats, woodsmen and surveyors.
    3. Talk about the north and south poles of the earth.

IV. Materials and Resources (Have available prior to lesson)

  - A. Compasses of different kinds
  - B. Label: North, South, East, and West
  - C. Schneider, Herman and Nina, Science for Here and Now 2, D. C. Heath and Co., pages 181-186.
  - D. Needle, magnet, block of wood, glass pan, water and tape

V. Summary and Evaluation of Lesson

  - A. Teacher's Review of Lesson

1. We learned that the four directions are north, south, east and west.
2. We learned that a compass is a magnetic needle that can turn.
3. We learned that a compass will show us where north, south, east and west are.
4. We also learned that a compass points north and south to the magnetic poles of the earth.

B. Teacher-Pupil Evaluation of Lesson

1. What is a compass?
2. What two directions will a compass point?
3. What are the four directions we know?
4. How can a compass help people?

Grade Level: 2

Unit No. IX: Work and Play with Magnets

Time: 2 weeks, 3 days

Lesson Plan No. 5 (2 days)

I. Purposes of the Lesson

   A. To review the concept that a magnet will pick up metallic objects

   B. To show that some metals are magnetic

   C. To show how metals are magnetized and lose magnetism

II. Review with Children Previous Day's Work

   A. Discussion

      1. What is a magnet?

      2. Where does a compass point?

      3. How does a compass help us? Who does it help? (Refer to page 373 in Teacher's Edition of the textbook.)

   B. Teacher-Pupil Sharing and Planning

      1. What is magnetism?

      2. Today we will see a film that will tell us what magnetism is.

III. Activities

   A. Individual

      Written test

   B. Class

      1. View a film, What is Magnetism?

      2. Discuss the film.

IV. Materials and Resources (Have available prior to lesson)

   A. Film, MPL 538, What is Magnetism? Dou. 64, 4 minutes, si col hi el (available at DeSoto Parish Materials Center)

   B. Test sheets

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. Remember magnets will attract metallic objects.

2. Remember we can make temporary magnets with other magnets and with electricity.

3. Remember a compass is a needle magnet.

B. Teacher-Pupil Evaluation of Lesson

Use written test to judge concepts gained.

Unit X

I. Grade Level: 2

Title: Animal Babies

Time: 3 weeks

II. Content

- A. Most animal babies are born in the spring.
- B. Many animal parents care for their young as the young eat and grow during the summer.
- C. Some animals feed their young; some feed themselves.
- D. Different kinds of animal babies have different ways of moving.
- E. Some animals are born from their mothers; some are hatched from eggs laid by their mothers.
- F. Some animal babies resemble their parents; others do not.
- G. Though there are many different animals, all are born, eat, grow up, and have new babies.
- H. Parents feed and care for their babies until they can take care of themselves.
- I. Some animals breed once a year.
- J. Babies grow, move around, and grow into adults.

III. Understandings

- A. All babies need proper food for growth.
- B. Amphibians are born from eggs hatched in the water.
- C. All animals resemble their parents when they are fully grown.
- D. Human babies are born at any time of the year.
- E. Spring is the time of birth of many kinds of animals.
- F. Mammals have milk glands to suckle their young.

IV. Problems

A. How is a toad different from a frog?

B. What is a toad?

C. What is a farm?

D. Describe the life cycle of a fish.

E. Identify the animals shown on these two pages, 192-193, and note how each animal is equipped for this environment.

F. What do humans do in caring for their babies?

G. Do you know of any other animals whose mothers feed them milk?

H. Study the pictures on pages 190-191 and note how this place is different from the one seen previously.

I. What will the roadrunner feed the babies?

J. How do roadrunners and rattlesnakes take care of their babies?

K. Do all animals' babies eat the same kind of food?

L. What kinds of food do the roadrunner and rattlesnake babies like?

M. How can these animals move?

N. How do they learn to swim?

O. Can a duck read a book?

P. What is the boy doing with the can in the picture at the top of page 194?

Q. What do frogs' eggs look like?

R. How old do you think the baby is? (page 199)

S. How will he look when he is a father? A grandfather?

V. Activities

A. Tadpole to frog

1. Materials

a. Frog in jar or terrarium

b. Tadpoles in class aquarium

c. Sketches of different stages on blackboard

d. Books with pictures of process

2. Procedure

a. Let the children observe tadpoles and frogs in science corner.

b. Have a question and answer period and pose such questions as:

(1) How far can a frog jump? (20 times its own length)

(2) How many kinds of frogs are there? (1700 kinds)

(3) How long do they live? (as long as 30 years)

(4) What are the differences between frogs and toads? There are few visible differences but the main ones are:

(a) Frogs--Skin: soft, moist, smooth
Teeth: small
Movement: fast
Habitat: mostly in water

(b) Toads--Skin: tough, dry with bumps (bumps give off a secretion which is harmful to animals)
Teeth: none
Movement: clumsy, short, front legs that toe in
Habitat: on land and water

c. Ask the children if they would like to study what happens to fish-like tadpoles.

d. Have children observe the changes that occur in the tadpoles.

e. As a culmination, the teacher and pupils might cooperate in the making of a chart entitled:

(1) Frogs are valuable:

(a) They eat insects.

(b) Used by scientists in laboratories--their bodies work like ours.

(c) Some tribes used toadskins for leather.

(2) Refer to illustrations in Lesson Plan No. 4.

3. Results

a. Children gain first hand experiences observing the various phases of metamorphosis.

b. Children learn the characteristics of frogs and toads.

4. Supplemental Information

a. If aquarium is kept in the classroom, be sure to change the water frequently or tadpoles will die.

b. They can be fed fish food, lettuce and bits of hardboiled eggs.

c. If the children want to keep a frog at home, they should dig a deep hole in the backyard in which is placed a large basin. Frogs should be fed live insects. All eggs are not fertile, and those which are not, die. Tadpoles sometimes eat each other.

The class may make a farm scene. Animals may be made from clay or from plaster of Paris molds.

C. Let the children tell about their pets. They may bring them to school to show.

D. Bring in pictures of the child as an infant and as he is now. Some may bring in pictures of parents as children and as they are now.

E. Have the children draw pictures to show the life cycle of a fish.

F. Keep and observe a small mammal. Young ones are good because they get used to children quickly.

G. Let someone bring in a crawfish, fish, and turtle and have the boys and girls observe these.

H. Catch insects and observe them. If desired, mount and display them.

I. Keep a caterpillar and observe him as he changes from a caterpillar to a moth or butterfly.

J. Make a list of helpful and harmful insects.

K. Examine a bird's nest.

VI. Vocabulary

born
babies
parents
desert
toad
grown up
world

VII. Enrichment

A. Activity--What do we get from animals?

1. Materials

a. Pictures of animals and illustrations of their usefulness to man; also illustrations of milk, wool, leather, etc.

b. Chart of various animals

2. Procedure

   a. Introduce lesson by discussion of a farm trip.

   b. Have the children identify the animals on the chart.

   c. Have the children classify the animals into three groups; those that contribute food; those that work for us; and those that protect us.

   d. Use the following questions as guides:

      (1) How do animals help supply us with food?

      (2) How do animals help supply us with the clothes?

      (3) How do animals help us do our work?

      (4) How do animals protect us?

      (5) How do animals help us in other ways?

   e. This is the chart that can be used showing the usefulness of a cow:

B. Have the children read and report on the different ways that animals feed, protect, and care for their young.

C. Let children bring pictures or drawing of different kinds of bird feet, beaks, wings and tails.

D. Find out what kinds of poisionous snakes, if any, are found in your region. Obtain pictures of them and have the children learn to recognize them on sight. Learn where these snakes are found and caution the children about these places. Find out what the proper first-aid treatment would be for bites from these snakes.

VIII. Evaluation

Written quiz

IX. References

A. Victor, Edward, Science for the Elementary School, Second Edition, The MacMillan Company, pp. 556-565.

B. Nelson, Leslie W. and Lorbeer, George C., Science Activities for Elementary Children, Third Edition, William C. Brown Company Publishers, pp. 27, 34.

C. Schneider, Herman and Nina, Science for Here and Now, Teacher's Guide, D. C. Heath and Company, pp. 380-392, 188-201.

X. Audio Visual Aids

A. Pictures of farm animals and products they give us

B. Pictures of bird's beak, feet, tail, and wings

C. Pictures of snakes

D. Refer to page 392 in text for films and filmstrips.

E. Refer to pages 390-391 in text for books and encyclopedias related to the unit.

F. Pictures of people

G. Live animals and insects

Grade Level: 2

Unit No. X: Animal Babies

Time: 3 weeks

Lesson Plan No. 1 (1 day)

I. Purposes of the Lesson

   A. To get children interested in animals

   B. To help them learn that most animal babies are born in the spring

   C. To help pupils learn that many animal parents care for their young as the young eat and grow during the summer

II. Provide Introduction (Motivational Experiences)

   A. Discussion

      1. What kind of pets do you have? How do you care for them?

      2. How do you think wild animals take care of themselves?

      3. How do they take care of their babies?

      4. What wild animal do you like best?

   B. Teacher-Pupil Sharing and Planning

      1. Name the animals you see on pages 188-189 in your book.

      2. How do these mothers care for their babies?

III. Activities

   A. Individual

      Read silently and orally pages 188-189 in Science for Here and Now, by Herman and Nina Schneider.

   B. Class

      1. Discuss pages 188-189 in Science for Here and Now.

      2. Show filmstrips on Different Kinds of Animals, FS 590 EBE 62 6fs, color.

IV. Materials and Resources (Have available prior to lesson)

  A. Filmstrips--FS 590, Different Kinds of Animals, EBE 62, 6fs, color

  B. Schneider, Herman and Nina, Science for Here and Now, D. C. Heath and Company, pp. 188-189.

V. Summary and Evaluation of Lesson

  A. Teacher's Review of Lesson

    1. In this lesson we learned that most animal babies are born in the spring.

    2. We learned how the mother animals care for the young. The deer takes care of her baby for almost a year. The baby turtle is not taken care of by its mother.

  B. Teacher-Pupil Evaluation of Lesson

    1. When are most animal babies born?

    2. How does a raccoon take care of her baby? A bird? A turtle? A deer? A rabbit? A mouse? A fox? An opposum? A skunk? a procupine? A squirrel?

Grade Level: 2

Unit No. X: Animal Babies

Time: 3 weeks

Lesson Plan No. 2 (2 days)

I. Purposes of the Lesson
    A. To help pupils learn that some animals feed their young; some young feed themselves
    B. To help them learn that all babies need proper food for growth

II. Review with Children Previous Day's Work
    A. Discussion
        1. When are most animal babies born?
        2. How do animals care for their young? What are the different ways they do it?
    B. Teacher-Pupil Sharing and Planning
        1. Today, we are going to talk about a different kind of home for animals.
        2. Look at the pictures on pages 190-191 and tell me how this place is different from the forest. (You may have a picture of a desert and desert animals if you do not want to use the book.)
        3. Babies are found here, too.
        4. What will the roadrunner feed her babies?
        5. Does the mother snake feed her babies?
        6. How do roadrunners and snakes take care of their babies?
        7. Do all animal babies eat the same food?
        8. What do the roadrunner and snake like to eat?

III. Activities

A. Individual

1. Read silently and orally pages 190-191 in Science for Her. and Now by Herman and Nina Schneider.
2. Have the children read and report on the different ways that deer, rabbits, birds, porcupines, raccoons, foxes, skunks, oppossum, box turtles, Gila monsters, snakes, badgers, chipmunks, lizards, pack rats, kangaroo rats, and kit foxes protect, feed and care for their young.

B. Group

Find out what kind of poisonous snakes, if any, are found in your region. Obtain pictures of them and have the children learn to recognize them on sight. Learn where these snakes are found and caution the children about these places. Find out what a proper first-aid treatment would be for bites from these snakes.

C. Class

1. Discuss how all babies are hungry.
    a. Some babies eat the same type of food as their parents.
    b. Some babies can feed themselves.
    c. The things they eat help them to grow.
2. Show filmloop--Nature's Use of Colors, MPL 591, Dou. 64, 4 min., si., color, el. hi.
3. Examine a bird's nest.

IV. Materials and Resources (Have available prior to lesson

A. Books about animals

B. Pictures of poisonous snakes

C. A bird's nest

- D. Schneider, Herman and Nina, *Science for Here and Now*, Boston: D. C. Heath and Company, 1968, pp. 190-191.
- E. MPL 591, *Nature's Use of Color*, Dou. 64, 4 minutes, si. color

V. Summary and Evaluation of Lesson

- A. Teacher's Review of Lesson
    1. We learned today that some animals feed their young and some young feed themselves.
    2. We know that all babies need proper food for growth.
    3. We learned about poisonous snakes. We know how to take care of a snake bite.
- B. Teacher-Pupil Evaluation of Lesson
    1. Name some animals which feed their young. How?
    2. Name some animal babies that have to get their own food. Why do they have to get their own food?
    3. What are some poisonous snakes in our area? How do you take care of a snake bite?

Grade Level: 2

Unit No. X: Animal Babies

Time: 3 weeks

Lesson Plan No. 3 (3 days)

I. Purposes of the Lesson

   A. To help pupils know that different kinds of animal babies have different ways of moving

   B. To help them learn that water animals can swim when they are very young

II. Review with Children Previous Day's Work

   A. Discussion

      1. What animals feed their young? How?
      2. What animal babies have to find their own food? Why?
      3. Name some poisonous snakes we have?
      4. How do you take care of a snake bite?
      5. Where do you find these snakes?

   B. Teacher-Pupil Sharing and Planning

      1. Show a picture of a pond. What does this place look like?
      2. What kind of plants and animals might you find here?

III. Activities

   A. Individual

      1. Read silently and orally pages 192-193 in Science For Here and Now by H. and N. Schneider.
      2. Have the children draw pictures to show the life cycle of a fish.

   B. Group

      1. Let a few children bring in a crawfish, fish, and turtle and have the boys and girls observe these.

2. Let children bring in pictures or drawings of different kinds of bird feet, beaks, wings and tails.

C. Class

1. Talk about how the beaver, leopard frog, painted turtle, mallards, fish, muskrats, and red-winged blackbird are equipped for their environment.
2. Show the following transparencies. Talk about them.
    a. TR 597 Fish Nests, IMC, 1969.
    b. TR 598 Parts of a Bird, IMC, 1969.
3. Let children imitate the way animals move.
4. Show the filmstrip Audubon's Birds of America FS 598.2 EBE 53 6fs col.
5. Show the filmloops
    a. MPL 598 The Red-Winged Blackbird EBE 68 4min., si., col.
    b. MPL 598.1 Life Cycle of a Snake EBE 68, 4min., si., col.
    c. MPL 598 Migratory Birds Dou 66 4min. si., col., el. hi.
    d. MPL 598.1 Reptiles EBE 69 4min., si., col.
    e. MPL 598.1 Snakes Dou 68 3min., si., col., el. hi.
    f. MPL 594 The Snail EBE 69 4min., si., col.
    g. MPL 551.4 Everglade Swamps Dou 66 3min., si., col., hi. (Shows birds and alligators)

IV. Materials and Resources (Have available prior to lesson)

A. Filmloops

1. MPL 598 The Red-Winged Blackbird EBE 68 4min., si., col.
2. MPL 598.1 Life Cycle of a Snake EBE 68 4min., si., col.
3. MPL 598 Migratory Birds Dou 66 4min., si., col., el. hi.
4. MPL 598.1 Reptiles

    5. MPL 598.1 Snakes Dou 68 3min. si., col., el. hi.
    6. MPL 594 The Snails EBE 69 4min., si., col.
    7. MPL 551.4 Everglade Swamps Dou 66 3min., si., col., hi.
       (Shows birds and alligators.)

B. Filmstrip, Audubon's Birds of America
   FS 598.2 EBE 53 6fs col.

C. Transparencies
    1. Fish Nests TR 597 IMC, 1969.
    2. Parts of a Bird TR 598 IMC, 1969.

D. Animals
    1. crawfish
    2. fish
    3. turtle

E. Pictures or drawings
    1. Bird feet
    2. Bird beaks
    3. Bird wings
    4. Bird tails

F. Art paper and crayons

G. Schneider, Herman and Nina, Science For Here and Now. D. C. Heath
   and Company, pp. 192-193.

V. Summary and Evaluation of Lesson

  A. Teacher's Review of Lesson
    1. Today, we learned that different kinds of animal babies have
       different ways of moving.
        a. A turtle and fish swim.
        b. A bird flies.

c. A beaver walks and swims.

2. We learned that water animals can swim when they are very young.

B. Teacher-Pupil Evaluation of Lesson

1. What are different ways animal babies move?

2. What will swim? How?

3. What will fly? How?

4. When can water animals swim? Why do you think so?

Grade Level: 2

Unit No. X : Animal Babies

Time: 3 weeks

Lesson Plan No. 4 (2 days)

I. Purposes of the Lesson

A. To help pupils learn that some animals are hatched from eggs laid by their mothers

B. To help them learn that amphibians are born from eggs hatched in the water

II. Review with Children Previous Day's Work

A. Discussion

1. Do all animal babies move the same way?
2. How do fish move?
3. How do birds move?
4. How do beavers move?
5. How do muskrats move?
6. How do snakes move?
7. How do turtles move?
8. When do the water babies learn to swim? How do they learn?

B. Teacher-Pupil Sharing and Planning

1. How many of you have caught frogs? What did they look like?
2. Have you caught a tadpole? What did it look like?
3. How do frog eggs look?
4. Today, we are going to learn how the frog developes from an egg to an adult frog.

III. Activities

A. Individual

Read pages 194-195 in Science for Here and Now by Herman and Nina Schneider.

B. Class

1. Show filmloops.

   a. MPL 597, Life Cycle of a Frog, EBE 68, si., col., 4 min.

   b. MPL 597, Handling Laboratory Animals, EBE 68, 4 min., si., color

2. List some amphibians discussing some the children have seen.

3. Observe how a frog changes from a tadpole to a frog.

   a. Let the children observe tadpoles and frogs in science corner.

   b. Have a question and answer period and pose such questions as:

      (1) How far can a frog jump? (20 times its own length)

      (2) How many kinds of frogs are there? (1700 kinds)

      (3) How long do they live?

      (4) What is the difference between frogs and toads? There are a few visible differences but the main ones are:

         (a) Frogs--Skin: soft, moist, smooth
         Teeth: small
         Movement: fast
         Habitat: mostly in water

         (b) Toads--Skin: tough, dry with bumps (bumps give off a secretion which is harmful to animals)

Teeth: none

Movement: clumsy, short, front legs that toe in

Habitat: on land and water

c. Ask the children if they would like to study what happens to fish-like tadpoles.

d. Have children observe the changes that occur in the tadpoles.

e. As a culmination, the teacher and pupils might cooperate in the making of a chart entitled:

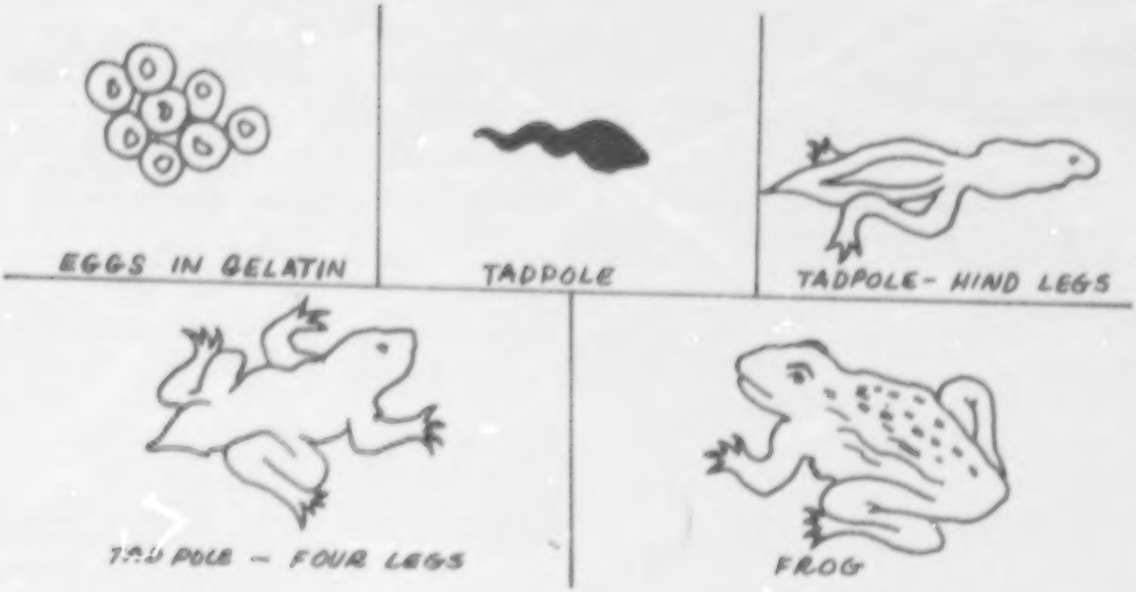
(1) Frogs are valuable:

   (a) They eat insects.

   (b) They are used by scientists in laboratories--their bodies work like ours.

   (c) Some tribes of Indians used toadskins for leather.

(2)



f. Refer to Unit Plan X, activity A for results and supplemental information.

4. Show and talk about a transparency of the Frog, TR 597.8, IMC, 1969, 1 transparency: Stages in Development.

IV. Materials and Resources (Have available prior to lesson)

   A. Frog in jar or terrarium

   B. Tadpoles in class aquarium

   C. Sketches of different stages on blackboard

   D. Books with pictures of life cycle of a frog

   E. Chart paper

   F. Filmloops

      1. MPL 597, Life Cycle of a Frog, EBE, 68, 4 min., si., color

      2. MPL 597, Handling Laboratory Animals, EBE, 68, 4 min.. sil, color

   G. Transparency, Frog, TR 597.8, IMC, 1969

   H. Schneider, Herman and Nina, Science for Here and Now, Boston: D. C. Heath and Company, 1968, pp. 194-195.

V. Summary and Evaluation of Lesson

   A. Teacher's Review of Lesson

      1. Today, we learned that frogs are hatched from eggs laid by their mothers.

      2. Now we know that amphibians are born from eggs hatched in the water.

   B. Teacher-Pupil Evaluation of Lesson

      1. How are frogs born?

      2. Where do they hatch out?

3. How does a frog change from a tadpole to a frog?

4. What is the difference between a toad and a frog?

Grade Level: 2

Unit No. X : Animal Babies

Time: 3 weeks

Lesson Plan No. 5 (3 days)

I. Purposes of the Lesson

A. To help pupils know that some animal babies resemble their parents; others do not

B. To know all animals resemble their parents when they are fully grown

C. To know that although there are many different animals, all are born, eat, grow up and have babies

II. Review with Children Previous Day's Work

A. Discussion

1. How are some animals born? (From eggs)
2. How do frogs change from a tadpole to a frog?
3. Where are frogs usually born? Why?

B. Teacher-Pupil Sharing and Planning

1. So far we have talked and learned about animals in the woods, desert and the pond.
2. Today, we will talk about farm animals and their babies.

III. Activities

A. Individual

1. Read silently, and then orally, pages 196-197 in Science For Here and Now by H. and N. Schneider.
2. If any member of the class has raised a pet, let him describe its growth to the class. He might want to bring it to school to show.

B. Group

1. Make a farm scene. Animals may be made from clay or from plaster of Paris.
2. Catch insects and observe them. If desired, mount and display them.
3. Keep a caterpillar and observe him as he changes from a caterpillar to a moth or butterfly.

C. Class

1. Keep and observe a small mammal. Young ones are good because they get used to children quickly.
2. Make a list of helpful and harmful insects.
3. Show the following filmloops.
    - a. MPL 595.7 Collecting Insects: By Hand EBE 68 3min., si., col.
    - b. MPL 595.7 The Flight of Insects CCM 2min., si., col., el., hi.
    - c. MPL 595.7 Harmful Insects Dou 64 4min., si., col., el. hi.
    - d. MPL 595.7 Helpful Insects Dou 64 4min., si., col., el. hi.
    - e. MPL 595.7 Life Cycle of the Ladybird Beetle EBE 68 4min., si., col.
    - f. MPL 595.7 The Praying Mantis Eal 66 4min., si., col.
    - g. MPL 595.79 Social Insects: Ants EBE 69 4min., si., col.
4. Name the insects, mammals, and birds found on pages 196-197 in Science For Here and Now by H. and N. Schneider.
5. Talk about what we get from animals.
    - a. Discuss a farm trip.
    - b. Identify again the animals from pages 196-197.
    - c. Classify the animals into three groups.
        - (1) Those that contribute food.
        - (2) Those that work for us.
        - (3) Those that protect us.

d. Ask the children:

(1) How do animals help supply us with food?

(2) How do animals supply us with clothes?

(3) How do animals help us work?

(4) How do animals protect us?

(5) How do animals help us in other ways?

e. Make charts showing how horses, cows, bees, dogs, pigs, cats, chickens, sheep, and ducks help us.

IV. Materials and Resources (Have available prior to lesson)

A. Pictures of farm animals and products they give us

B. Clay and other materials for farm scene

C. Live insects

D. Small mammals

E. A child's pet

F. A caterpillar and jar

G. Filmloops

1. MPL 595.7 Collecting Insects: By Hand EBE 68 3min., si., col.
2. MPL 595.7 The Flight of Insects CCM 2min., si., col., el. hi.
3. MPL 595.7 Harmful Insects Dou 64 4min., si., col., el. hi.
4. MPL 595.7 Helpful Insects Dou 64 4min., si., col., el. hi.
5. MPL 595.7 Life Cycle of the Ladybird Beetle EBE 68 4min., si. col.
6. MPL 595.7 The Praying Mantis Eal 66 4min., si., [illegible]
7. MPL 595.79 Social Insects: Ants EBE 69 4min., si., col.

H. Several pieces of chart paper

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. We learned that some animal babies resemble their parents. Some do not.
2. We learned that when babies grow up they look like their parents.
3. Now you know that all animals are born, eat, grow up and have babies.

B. Teacher-Pupil Evaluation of Lesson

1. Name some animal babies that resemble their parents. How do parents take care of them?
2. Name some animal babies that do not look like their parents. How do the parents take care of them?
3. What happens to each baby when it grows up? Yes, it has babies.
4. How do farm animals help us?

Grade Level: 2

Unit No. X: Animal Babies

Time: 3 weeks

Lesson Plan No. 6 (3 days)

I. Purposes of the Lesson

A. To help pupils learn that human babies are born at any time of the year

B. To help children learn that parents feed and care for their babies until they can take care of themselves

II. Review with Children Previous Day's Work

A. Discussion

1. Do all babies resemble their parents? (No, they do not.)
2. What babies do not look like their mothers?
3. What babies do look like their mothers?
4. Do all babies look like their parents when they are grown?
5. How are all animals alike?

B. Teacher-Pupil Sharing and Planning

1. How many of you have pets? How old are they?
2. When is their birthday?
3. When is your birthday? Let's list these on the board.

III. Activities

A. Individual

1. Read pages 198-199 in Science For Here and Now by H. and N. Schneider.
2. Bring in pictures of the child as an infant and as he is now. Some may bring in pictures of parents as children and as they are now. Make a display of them.

B. Class

1. Talk about how humans care for their babies.
2. Write the children's birthdays on the board. The children will realize people can be born any time of the year.
3. Show filmstrip Growing Up FS 301.42 The Home Community EBE 6 fs si. col.

IV. Materials and Resources (Have available prior to lesson)

A. Pictures of children as infants and as they are now

B. Pictures of parents as children and then as parents

C. Filmstrip - Growing Up
FS 301.42 The Home Community EBE 6fs si. col.

D. Schneider, Herman and Nina, Science For Here and Now. D. C. Heath and Company, pp. 198-199.

V. Summary and Evaluation of Lesson

A. Teachers' Review of Lesson

1. We know now that human babies are born at anytime of the year.
2. Also the parents feed and care for their babies until they can take care of themselves.

B. Teacher-Pupil Evaluation of Lesson

1. Evaluation of Lesson
    a. When can human babies be born?
    b. When do human babies take care of themselves?
    c. How do human parents take care of their babies?
2. Unit Evaluation
    a. Show transparency TR 591 Animals, IM, 1969. Let the children tell if the animals are reptiles, birds or mammals.
    b. Give a written quiz.

c. Talk about pages 200-201 in Science For Here and Now by H. and N. Schneider.

Unit XI

I. Grade Level: 2

Title: Good Food, Good Teeth

Time: 3 weeks

II. Content

- A. Food comes from many parts of the world.
- B. Some foods need to be washed before being eaten.
- C. A varied diet helps to keep us strong and healthy.
- D. We need certain kinds of food each day.

III. Understandings

- A. Food must be clean before we eat it.
- B. We should wash our hands before eating.
- C. Germs on food can cause illness.
- D. Our teeth are tools that help us cut, tear, crush and grind our food.
- E. Children lose their first set of teeth.
- F. Other teeth grow in and replace them.
- G. Teeth must be kept clean to avoid decay.
- H. A good diet contains minerals for our teeth and bones.
- I. Food is prepared in the body by digestion.
- J. Blood distributes digested food to all parts of the body.

IV. Problems

- A. Why must food be put in boxes, cans, and jars?
- B. In what other ways can food be kept clean?
- C. Where did this food come from?
- D. What should be done with food that is uncovered (for instance, fruits and vegetables)?

E. Crumple a piece of paper. Put dirt on the crumpled paper and also on a plain piece of paper. Tilt both pieces of paper at a large angle. Which piece holds more dirt? From which piece does the dirt slide off easily?

F. What teeth would you use to bite on something?

G. What teeth would you use to bite off a piece of steak or a piece of tough candy, such as taffy?

H. What teeth would you use to chew something?

I. How can we take care of our teeth?

J. Why do we need many different foods?

K. Do you eat some of these foods each day?

L. What do you do with the food you put into your mouth?

M. Where does it go from the mouth?

N. Where does this tube take the food?

O. What things can you do after eating that will help digestion?

V. Activities

A. Take a trip to the supermarket. The children might list ways in which food is protected in the store.

B. Make a list of the things which our hands touch everyday. Let two children wash hands with cold water, then warm water and soap to show the children that warm water and soap are necessary to remove dirt.

C. Have children look at their hands. Call attention to the lines and creases in their palms and on their knuckles. Then let them look at their hands with a magnifying glass. The ridges and furrows will be more evident. Dirt can lodge very firmly in the furrows.

D. Have a child touch some dirt and then handle a piece of chalk. The dirt from his hand will be on the chalk.

E. Have a wash basin, soap and towels available for the children to wash their hands.

F. Have children to examine their nails with a magnifying glass.

G. Ask the children to smile at each other and to note the front teeth. Show that they are flat and wedge-shaped and like a knife, can cut and chop.

H. Have two children get their hands dirty; then have one wash his hands in cold water and the other wash his hands in warm water with soap. Discuss the difference in the results.

I. Compare the childrens' teeth with different kinds of tools.

J. Discuss how we can take care of our teeth.

K. Discuss visits to the dentist.

L. Make a picture collection of foods that help us have strong teeth and bones.

M. Demonstrate how to brush teeth.

N. Have pupils draw an original health poster or picture on "How to Keep Well."

O. Do the investigations on page 231 in Science for Work and Play.

P. Observe a pet's teeth.

VI. Vocabulary

germs
tear
dentist
soapy
crush
bones
folds
grind
stomach
chop
cleaner
mash

VII. Evaluation

Written quiz

VIII. References

A. Schneider, Herman and Nina, Science for Here and Now, Teacher's Edition, D. C. Heath and Company, pp 404-417, 216-229.

B. The World Book Encyclopedia, Field Enterprise Educational Corporation, 1959, Vol. 16, pp. 7924-7928.

IX. Audio Visual Aids

A. Refer to pages 414-415 in Science for Here and Now, Teacher's Edition for book references.

B. Refer to page 416 in Science for Here and Now, Teacher's Edition for encyclopedia references.

C. Refer to page 417 in Science for Here and Now, Teacher's Edition for films and filmstrips.

Grade Level: 2

Unit XI: Good Food, Good Teeth

Time: 2 weeks, 3 days

Lesson Plan No. 1 (2 days)

I. Purposes of the Lesson

   A. To get pupils interested in learning about good food for the body

   B. To learn that food comes from many parts of the world

   C. To learn that food must be clean before we eat it

II. Provide Introduction (Motivational Experiences)

   A. Discussion

      1. What food do you like best?

      2. Which foods are good for your teeth? Why?

      3. Which foods are not good for your teeth? Why?

   B. Teacher-Pupil Sharing and Planning

      1. Where does our food come from?

      2. Who is responsible for the food we eat? One person? Two people? Or many?

      3. How is food packaged in the supermarket?

III. Activities

   A. Individual

      Read pages 216-217 in Science for Here and Now by Herman and Nina Schneider.

   B. Class

      1. Take a trip to the supermarket. The children might list ways in which food is protected in the store.

      2. Discuss page 216-217 in textbook as shown in the individual activities.

3. Show filmstrips FS641
    a. Where Food Comes From
    b. The Food Store
    c. Getting Food Ready For Market
4. Talk about how apples get from the orchard to market to consumer. Use a series of pictures showing it. Bring in information about insecticides used on fruit.

IV. Materials and Resources (Have available prior to lesson)

- A. Filmstrip Projector
- B. Filmstrips
- C. Blackboard and chalk
- D. Chart paper and magic marker
- E. A grocery store or supermarket
- F. Textbooks: Schneider, Herman and Nina, Science For Here and Now 2. Boston: D. C. Heath and Company, 1968. Pp. 216-217.
- G. Series of pictures showing apples from orchard to market to consumer

V. Summary and Evaluation of Lesson

- A. Teacher's Review of Lesson
    1. In this lesson we found out food comes in cans, bags, boxes, and jars.
    2. We found out how apples come to us from the orchard to the market to the consumer.
    3. We learned that our food comes from different parts of the world.
    4. We learned food must be cleaned before eating it.

B. Teacher-Pupil Evaluation of Lesson

1. How is food protected?
2. Where does our food come from?
3. Why should food be clean before we eat it?
4. How do apples get to us from an orchard?

Grade Level: 2

Unit XI: Good Food, Good Teeth

Time: 2 weeks, 3 days

Lesson Plan No. 2 (1 day)

I. Purposes of the Lesson

  A. To convince children they should wash their hands before eating

  B. To teach them that germs on foods can cause illness

II. Review with Children Previous Day's Work

  A. Discussion

    1. Where does our food come from?

    2. How do we keep food clean?

  B. Teacher-Pupil Sharing and Planning

    1. Why should we keep our hands clean?

    2. Is it hard to get your hands clean? Why?

    3. Should we use warm or cold water to wash our hands? Why?

    4. Why is it better to wash our hands in warm water?

III. Activities

  A. Individual

    1. Have a child touch some dirt and then handle a piece of chalk. The dirt from his hand will be on the chalk.

    2. Read pages 218-220 in Science For Here and Now by Herman and Nina Schneider.

  B. Group

Have two children get their hands dirty. Then let one wash his hands with cold water, the other in warm water and soap to show that warm water and soap are necessary to remove dirt. Compare the results.

C. Class

1. Make a list of the things which our hands touch everyday.

2. Have children look at their hands. Call attention to the lines and creases in their palms and on their knuckles. Then let them look at their hands with a magnifying glass. The ridges and furrows will be more evident. Dirt can lodge very firmly in the furrows.

3. Have a wash basin, soap and towels available for the children to wash their hands.

IV. Materials and Resources (Have available prior to lesson)

A. Soap

B. Water

C. Magnifying glass

D. Paper towels

E. Chalk

F. Dirt

G. Wash basin

H. Textbooks: Schneider, Herman and Nina, Science For Here and Now, Boston: D. C. Heath and Company. pp. 218-220.

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. We know we should wash our hands before eating because our hands are dirty.

2. We know that germs are in the dirt on our hands. Then the germs get on the food when we touch it.

3. It is easier to clean our hands with warm water than with cold water.

B. Teacher-Pupil Evaluation of Lesson

1. Why should we wash our hands before eating?
2. How should we clean our hands? Why?
3. Why are germs not good to have on food?

Grade Level: 2

Unit XI: Good Food, Good Teeth

Time: 2 weeks, 3 days

Lesson Plan No. 3 (1 day)

I. Purposes of the Lesson

To learn that our teeth are tools that help us cut, tear, crush, and grind our food

II. Review with Children Previous Day's Work

A. Discussion

1. Should we wash our hands before eating? Why?
2. Why is it bad for germs to be on our food?
3. Can dirty hands help put germs on food? Why?
4. Which is better to wash your hands with soap and warm water, or soap and cold water? Why?

B. Teacher-Pupil Sharing and Planning

1. Our food has to be broken up before our body can use the food we eat.
2. How do you break up your food? Yes, you chew it up with your teeth.
3. Today, we are going to find out how our teeth break up our food.

III. Activities

A. Individual

Read silently and orally pages 221-222 in Science For Here and Now 2 by Herman and Nina Schneider.

B. Group

Observe a pet's teeth and report what you see.

C. Class

1. Ask the children to smile at each other and to note the front teeth. Show that they are flat and wedge-shaped and like a knife, can cut and chop.
2. Compare the children's teeth to different kinds of tools. Use a model of teeth, if possible.
3. Use transparencies of a normal tooth and permanent teeth to show what they look like. TR611.3 (2 transparencies) with 2 overlays. (Available at DeSoto Parish Materials Center)

IV. Materials and Resources (Have available prior to lesson)

A. A model of teeth

B. Children's own teeth

C. Transparencies (Available at DeSoto Parish Materials Center)

1. Normal Tooth IMC, 1969. TR611.3
2. Permanent Teeth IMC, 1969. TR611.3

D. Schneider, Herman and Nina, Science For Here and Now. D. C. Heath and Company, pages 221-222.

V. Summary and Evaluation

A. Teacher's Review of Lesson

1. Today, we learned our teeth are different shapes.
2. We learned our teeth cut, chop, tear and grind.
3. Our teeth are like tools such as a knife, wedge, scissors, fork, and a nutcracker.

B. Teacher-Pupil Evaluation of Lesson

1. Are our teeth the same shape? Why not?
2. What can our teeth do? Which teeth cut and tear? Which teeth grind? Which teeth chop? Which teeth crush?

Grade Level: 2

Unit XI: Good Food, Good Teeth

Time: 2 weeks, 3 days

Lesson Plan No. 4 (3 days)

I. Purposes of the Lesson

   A. To learn that children lose their first set of teeth

   B. To learn that other teeth grow and replace them

   C. To learn that teeth must be kept clean to avoid decay

   D. To discover that a good diet contains minerals for our teeth and bones

II. Review with Children Previous Day's Work

   A. Discussion

      1. How do our teeth differ in appearance?

      2. Why are they different shapes?

      3. What kind of work do teeth do for us?

      4. Which teeth cut and chop?

      5. Which teeth cut and tear?

      6. Which teeth crush and grind?

   B. Teacher-Pupil Sharing and Planning

      1. How many of you have lost some teeth?

      2. Which ones did you lose?

      3. We have to take care of our teeth to keep them healthy, don't we. How do we do this?

III. Activities

   A. Individual

      1. Read pages 223-224 in Science For Here and Now by Herman and Nina Schneider.

2. Read page 25 in Science for Here and Now 2 by Herman and Nina Schneider.

B. Class

1. Demonstrate correct brushing of teeth.

2. Discuss different ways we can take care of our teeth.

3. Discuss visits to the dentist. How often should we go?

4. Make a picture collection of foods that help us have strong teeth and bones.

5. Talk about a transparency showing deciduous or baby teeth.

6. Show two filmstrips. (Available at DeSoto Parish Materials Center)

a. Cleaning Your Teeth, MPL 617.6 EBE 68 f min. si. col.

b. Care of Your Gums, EBE 68 3 min. si. col. MPL 617.6

7. Let a dentist talk to the class about how to care for teeth.

IV. Materials and Resources (Have available prior to lesson)

A. A dentist

B. Pictures of food that help to build strong teeth and bones

C. Transparency--Deciduous Teeth, IMC, 1969, TR 611.3

D. Filmstrips

1. Cleaning Your Teeth

2. Care of Your Gums

E. Schneider, Herman and Nina, Science for Here and Now, Boston: D. C. Heath and Company, pages 123-125.

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. Today, we learned that children lose their first set of teeth.

2. Then, other teeth grow in their place.

3. We have to keep teeth clean because we don't want them to decay.

4. Also we have to eat the right foods so our teeth and bones will be strong.

B. Teacher-Pupil Evaluation of Lesson

1. Do you keep your first set of teeth?
2. When you lose your teeth, what kinds of teeth come in their place? How does it happen?
3. Why do we have to keep teeth clean?
4. How do we clean teeth?
5. What kinds of food should we eat to have good teeth and bones? Why?

Grade Level: 2

Unit XI: Good Food, Good Teeth

Time: 2 weeks, 3 days

Lesson Plan No. 5 (2 days)

I. Purposes of the Lesson

   A. To learn that a varied diet helps to keep us strong and healthy

   B. To find out that we need certain kinds of food each day

II. Review with Children Previous Day's Work

   A. Discussion

      1. Do children lose their first set of teeth? Why?

      2. What grows and replaces the baby teeth?

      3. How do the permanent teeth come in?

      4. Why must we keep our teeth clean?

      5. How do we keep teeth clean?

      6. What should we eat to have good teeth and bones?

   B. Teacher-Pupil Sharing and Planning

      1. What foods do you like to eat?

      2. Why do we have to eat so many different kinds of foods?

      3. Today, we will find out which foods we should eat each day to have a well-balanced diet.

III. Activities

   A. Individual

      1. Read silently and orally pages 226-227 in Science For Here and Now 2 by Herman and Nina Schneider.

      2. Have the pupils draw an original health poster, or picture, on how to keep well.

   B. Group (To extend through the next lesson plan)

Have the children keep a record of what they eat each day for a week. At the end of the week check each day's diet to see if all four basic food groups are represented.

C. Class

1. Show filmstrips on Kinds of Food and Food For Good Health. (FS 641, Food)

2. Talk about pictures on pages 226-227 of textbook--Science for Here and Now 2.

IV. Materials and Resources (Have available prior to lesson)

A. Filmstrips (Available at DeSoto Parish Materials Center)

1. Kinds of Food, FS 641 EBE 6 fs. si., col., el.

2. Food For Good Health, FS 641 EBE 6fs., sil, col., el.

B. Art paper and crayons

C. Schneider, Herman and Nina, Science for Here and Now, D. C. Heath, pp. 226-227.

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. We need a varied diet to keep us strong and healthy.

2. We need certain kinds of food each day.

B. Teacher-Pupil Evaluation of Lesson

1. Do we need to eat different foods? Why?

2. What do we need to eat each day? Why?

Grade Level: 2

Unit XI: Good Food, Good Teeth

Time: 2 weeks, 3 days

Lesson Plan No. 6 (1 day)

I. Purposes of the Lesson

A. To prove that food contains simple sugars.

B. To prove that food contains starch.

C. To prove that food contains fat.

II. Review with Children Previous Day's Work

A. Discussion

1. Why do we need to eat different kinds of food?

2. What kinds of food do we need?

B. Teacher-Pupil Sharing and Planning

1. Do you think sugar is in our food? How can we tell?

2. Do you think starch is in our food? Can we prove it?

3. Do you think fat is in our food? What foods contain fat?

4. Today we will find out.

III. Activities

A. Individual

B. Class

1. Test foods for the presence of simple sugars. Obtain some Benedict's solution from the drug store. Pour 1 teaspoon of corn syrup into Pyrex test tube. Add a few drops of the Benedict's solution and heat the test tube gently over the flame of a Bunsen burner, or an alcohol lamp, making sure to point the mouth of the test tube away from yourself and the

children. The color of the blue solution will change first to a yellow-green and then to a brick red color, showing the presence of simple sugars.

Repeat the test using small amounts of solid foods, including soda crackers or saltines, raisins, and a bit of onion.

2. Test food for presence of starch in a test tube half-filled with water. Add one or two drops of tincture of iodine to the solution and stir. A blue-black color will form, showing the presence of starch. Place a drop or two of the iodine on a slice of raw potato and a slice of bread. The blue-black color will again show the presence of starch. Repeat the test, using a variety of both starchy and non-starchy foods, such as soda crackers or saltines, boiled macaroni or spaghetti, boiled rice, a lump of table sugar, cooked egg white, cheese, bacon, and meat.

3. Test foods for presence of fats. Rub a bit of butter on a piece of brown paper bag, and warm the paper gently over a hot plate. Put two or three drops of water on a second piece of brown paper. Now hold both pieces of paper up to the sunlight or a bright light. Both spots will be translucent and allow water to pass through. However, the water spot will become dry and stop being translucent, but the "grease" spot will continue to be translucent.

   Try this test for the presence of fats with such foods as bacon, nuts, the white, and the yolk of a boiled egg, olive oil, mayonnaise, beef, bread, and leafy vegetables. Note which foods produce a permanent grease spot on the brown paper.

IV. Materials and Resources (Have available prior to lesson)

  A. Benedict's solution

  B. Corn syrup

  C. Pyrex test tube

  D. Bunsen burner or alcohol lamp

  E. Soda crackers, saltines, raisins, onion, raw potato, slices of bread, boiled macaroni, spaghetti, boiled rice, lump of table sugar, cooked egg white, cheese, bacon, meat, butter, water, nuts

  F. Brown paper bags (2)

  G. Tincture of iodine

  H. Victor, Edward, Science for the Elementary School. New York: The MacMillan Company, 1965. Pp. 588-589.

V. Summary and Evaluation of Lesson

  A. Teacher's Review of Lesson

    1. In this lesson we found out corn syrup, crackers, raisins, and onions have sugar in them.

    2. We found starch in crackers, macaroni, spaghetti, boiled rice, table sugar, egg white, cheese, bacon and meat.

    3. We found fats in bacon, nuts, the white and yolk of a boiled egg, olive oil, mayonnaise, beef, bread, and leafy vegetables.

  B. Teacher-Pupil Evaluation of Lesson

    1. Name foods that have sugar in them. How did we prove it?

    2. Name foods that have starch in them. How did we prove it?

    3. Name foods that have fats in them. How did we prove it?

Grade Level: 2

Unit XI: Good Food, Good Teeth

Time: 2 weeks, 3 days

Lesson Plan No. 7 (3 days)

I. Purposes of the Lesson

  A. To learn that food is prepared for the body by digestion

  B. To learn that blood distributes digested food to all parts of the body

II. Review with Children Previous Day's Work

  A. Discussion

    1. Name some foods that contain sugar.

    2. Name some foods that contain starch.

    3. Name some foods that contain fat.

    4. How did we prove this about each food?

  B. Teacher-Pupil Sharing and Planning

    1. What do you do with food in the mouth?

    2. Where does it go from the mouth? (Passes through a food tube called the esophagus)

    3. Where does this tube take the food? (To the Stomach)

III. Activities

  A. Individual

    1. Read pages 228-229 in Science For Here and Now 2 by Herman and Nina Schneider.

    2. Read page 230 in the textbook.

  B. Group

    Do investigations one and two on page 231 in the text.

  C. Class

1. Show a film: Exploring Your Growth or a health film of your choice.
2. Talk about health habits you need to remember.
3. Talk about what you can do after eating to help digestion.
4. Talk about a transparency showing the digestive system.

IV. Materials and Resources

A. Transparency: Digestive System, IMC, 1969, TR611.3

B. Two sugar cubes, two glasses, watch and a pitcher of water

C. Schneider, Herman and Nina, Science For Here and Now 2. Boston: D. C. Heath and Co., pp. 228-231

D. Film: Exploring Your Growth, 11 minutes, color, Churchill Films

Address: Churchill Films
662 North Roberson Boulevard
Los Angeles, California 90069

V. Summary and Evaluation of Lesson

A. Teacher's Review of Lesson

1. In this lesson we learned that food is prepared for the body by digestion.
2. Then the blood takes digested food to all parts of your body.
3. We learned that we are to rest after meals because it helps our digestion.
4. We need to wash our hands before eating.
5. We need to take a bath, brush our teeth after we eat, and eat the right foods.

B. Teacher-Pupil Evaluation of Lesson

1. How is the food prepared for our body?
2. How does the food get to all parts of the body?

3. How can you help your body digest the food you eat?
4. Let's name some health habits we need to remember to be healthy.

C. Give a written test at this time.